



WHEN IT COMES TO SAFETY.
DRÄGER SAFETY PRODUCTS AND SERVICES

DETECTION
PERSONAL PROTECTION
DIVING TECHNOLOGY
SYSTEM TECHNOLOGY
SERVICES

Drägersafety

When it comes to Safety

THE NAME DRÄGER HAS BEEN SYNONYMOUS WITH SAFE BREATHING EQUIPMENT FOR ALL TYPES OF ENVIRONMENTS FOR OVER 100 YEARS. AS ONE OF THE LEADING MANUFACTURERS OF PERSONAL PROTECTIVE EQUIPMENT AND GAS DETECTION TECHNOLOGY, AND A SYSTEMS SUPPLIER OF COMPLETE SAFETY SOLUTIONS, TODAY DRÄGER SAFETY IS REPRESENTED WITH APPROXIMATELY 40 SUBSIDIARIES AND DEDICATED DISTRIBUTORS IN OVER 100 COUNTRIES WORLDWIDE.

Listed in this catalogue you will find a comprehensive overview of our products and services, ranging from detector tubes and measurement systems for gas detection, breathing or escape apparatuses, or examples from our range of diving equipment through to rescue and protection systems. This list of our products does not claim to be exhaustive.

If you have any questions regarding our products or are interested in a customised solution, please contact your local Dräger Safety sales organisation – whenever it comes to safety.

Dräger Safety AG & Co. KGaA,
Lübeck, 2007

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Detection

FROM PORTABLE TO FIXED INSTALLATIONS AND HAND-HELD TUBES TO INFRA-RED DETECTORS, DRÄGER SAFETY HAS THE PERFECT, TOTAL SOLUTION TO ANY GAS DETECTION PROBLEM. THE ACCURATE, FAST IDENTIFICATION OF HAZARDOUS AIRBORNE SUBSTANCES IS ESSENTIAL IN ANY AREA OF INDUSTRY WHERE A RISK TO HEALTH MAY EXIST, AND IS A PREREQUISITE FOR EVERY SAFETY MANAGEMENT PROGRAMME. IDEAL FOR SHORT TERM OR ROUTINE APPLICATIONS AS WELL AS IN THE CONTINUOUS PREVENTION OF LIFETHREATENING EMERGENCIES, OUR TRIED AND TESTED GAS DETECTION SYSTEMS CAN BE COUNTED ON TIME AFTER TIME TO DETECT BOTH KNOWN AND UNKNOWN HAZARDS.

Designed to provide immediate warning of toxic and/or explosive substances, as well as oxygen deficiency or enrichment, Dräger Safety gas detection equipment combines ease of use with rugged performance to ensure the utmost safety in any situation. For this reason, it can be found in various industries such as oil & gas, chemical industry, fire & emergency, shipping, military, government and utilities applications.

As a leading provider of air monitoring and warning equipment with years of experience in a wealth of environments throughout the world, we also have a very good understanding of different customer applications and problems. In fact, each product has been designed with the user in mind and has been developed as a result of extensive user research. For short term measurements, for instance, there is a choice of over 220

DrägerTubes for use with specific gases, whilst constant monitoring can be assured with personal gas monitors such as the Dräger X-am 2000, where we offer a solution to support your procedures – 24 hours a day, 7 days a week. In addition, fixed gas detection systems incorporating devices such as the Dräger Polytron Pulsar can be permanently installed to provide failsafe detection of hydrocarbons in all weathers and all environments. An extensive array of accessories from carrying cases and probes through to bump stations and data loggers ensures that you have a flexible, reliable solution for any monitoring requirement.

Customer support is part of our total solution philosophy and in addition to design, installation and commissioning, you can rely on our test and calibration equipment, as well as professional software solutions for optimal system manage-

ment. Operating worldwide, we are also able to offer all relevant local approvals as well as the required certification.

Sensors have been a key technology in Dräger products for many years and our research and development group continues to bring you the best sensor technology. High sensitivity and selectivity to the gas being measured, combined with excellent long-term stability and fast reaction times, ensure that the user receives immediate and reliable warning in the event of gas hazards.

Successful on a worldwide basis and with one of the broadest product portfolios, it is safe to say that we understand the customer's problems and can provide the very best in gas detection systems for any application.

Dräger-Tubes for Short Term Monitoring

Dräger-Tubes are synonymous with short term monitoring systems – and for good reason. For over six decades as a leading supplier Dräger has perfected the "Laboratory behind Glass" phenomenon. Dräger tube systems determine quickly and efficiently harmful substances in air, water and soil. For specific monitoring of so-called spot concentrations there are more than 220 Dräger tubes available for use.



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Dräger-Tubes for Short Term Monitoring:
A laboratory in a glass.

Diverse applications

Today test tubes are an integral part of gas analysis procedures. The system has countless applications in industry, laboratories, the fire service and in the event of catastrophes and environmental protection where test results are required immediately as an aid to make a correct decision. Dräger tubes are particularly outstanding since they are easy to use and have a high degree of accuracy as well as being comparatively cheap to buy.

Quick and accurate results

Directly after measurements have been taken Dräger tubes provide accurate results – expensive methods in the laboratory are an issue of the past. It is not necessary for the user to carry out any calibration work as calibration is provided in the form of a scale printed on the tube.

The right tube for each application

Currently there are more than 220 short term monitoring tubes available for the monitoring of up to 500 gases and the number is constantly increasing. Each year new tubes are developed in order to cope with changing environmental conditions, new legal directives, lowering values and special customer requirements. Even with new gases the monitoring system leads the way. Dräger Safety leads the way in the development of new and customer specific tubes.

The principle: safe and simple

In an enclosed glass body, the Dräger tube, there is a reagent test system on a fixed carrying material which, on coming into contact with a particular gas or vapour, reacts by producing a characteristic colour change. To ensure contact a predefined amount of ambient air must be drawn through by a pump. The smallest amounts of gas are sufficient to produce a reaction. Using the scale on the tube it is very easy for the user to read or evaluate the results.

Order Dräger tubes for good reason

- they always give a quick and accurate result
- are easy to handle
- are ideal for spot monitoring
- are comfortable to use even when wearing safety gloves
- can take a reading without a power supply
- do not require calibration before monitoring
- are very economical.

Dräger-Tubes for Short Term Monitoring

ORDER INFORMATION

Dräger-Tube For Short Term Monitoring	Standard Range of Monitoring [20°C, 1013 hPa]	Duration [min.]	Order No.
Acetaldehyde 100/a	100 - 1 000 ppm	5	67 26 665
Acetic Acid 5/a	5 - 80 ppm	30 s	67 22 101
Acetone 100/b	100 - 12 000 ppm	4	CH 22 901
Acetone 40/a (5)	40 - 800 ppm	1	81 03 381
Acidity Test	qualitative	3 s	81 01 121
Acrylonitrile 0.5/a (5)	1 - 20 ppm	2	67 28 591
	0.5 - 10 ppm	4	
Acrylonitrile 5/b	5 - 30 ppm	30 s	CH 26 901
Activating tube (for use in conjunction with Formaldehyde 0.2/a tube)			81 01 141
Alcohol 100/a	100 - 3 000 ppm	1.5	CH 29 701
Alcohol 25/a		5	81 01 631
-Ethanol	25 - 2 000 ppm		
-i-Propanol	50 - 4 000 ppm		
-Methanol	25 - 5 000 ppm		
-n-Butanol	100 - 5 000 ppm		
Amine-Test	qualitative	5 s	81 01 061
Ammonia 0.25/a	0.25 - 3 ppm	1	81 01 711
Ammonia 0.5%/a	0.5 - 10 Vol.-%	20 s	CH 31 901
Ammonia 2/a	2 - 30 ppm	1	67 33 231
Ammonia 5/a	5 - 70 ppm	1	CH 20 501
	50 - 700 ppm	6 s	
Ammonia 5/b	5 - 100 ppm	10 s	81 01 941
Aniline 0.5/a	0.5 - 10 ppm	4	67 33 171
Aniline 5/a	1 - 20 ppm	3	CH 20 401
Arsine 0.05/a	0.05 - 3 ppm	6	CH 25 001
Benzene 0.5/a	0.5 - 10 ppm	15	67 28 561
Benzene 0.5/c (5)	0.5 - 10 ppm	20	81 01 841
Benzene 15/a	15 - 420 ppm	4	81 01 741
Benzene 2/a (5)	2 - 60 ppm	8	81 01 231
Benzene 5/a	5 - 40 ppm	3	67 18 801
Benzene 5/b	5 - 50 ppm	8	67 28 071
BTX (Toluene 5/b)	50 - 300 ppm	1	81 01 661
	5 - 80 ppm	5	
Carbon Dioxide 0.1%/a	0.5 - 6 Vol.-%	30 s	CH 23 501
	0.1 - 1.2 Vol.-%	2.5	
Carbon Dioxide 0.5%/a	0.5 - 10 Vol.-%	30 s	CH 31 401
Carbon Dioxide 1%/a	1 - 20 Vol.-%	30 s	CH 25 101
Carbon Dioxide 100/a	100 - 3 000 ppm	4	81 01 811
Carbon Dioxide 5%/A	5 - 60 Vol.-%	2	CH 20 301
Carbon Disulphide 3/a	3 - 95 ppm	2	81 01 891
Carbon Disulphide 30/a	0.1 - 10 mg/L	1	CH 23 201
Carbon Disulphide 5/a	5 - 60 ppm	3	67 28 351
Carbon Monoxide 0.3%/b	0.3 - 7 Vol.-%	30 s	CH 29 901
Carbon Monoxide 10/b	100 - 3 000 ppm	20 s	CH 20 601
Carbon Monoxide 10/c	10 - 250 ppm	1.5	81 01 951
Carbon Monoxide 10/d (without Sulphuric Acid)	100 - 3 000 ppm	40 s	81 03 321
	10 - 300 ppm	6	
Carbon Monoxide 2/a	2 - 60 ppm	4	67 33 051

Dräger-Tubes for Short Term Monitoring

Dräger-Tube For Short Term Monitoring	Standard Range of Monitoring [20°C, 1013 hPa]	Duration [min.]	Order No.
Carbon Monoxide 5/c	100 - 700 ppm 5 - 150 ppm	50 s 4	CH 25 601
Carbon Monoxide 8/a	8 - 150 ppm	2	CH 19 701
Chlorine 0.2/a	0.2 - 3 ppm	3	CH 24 301
Chlorine 0.3/b	0.3 - 5 ppm	8	67 28 411
Chlorine 50/a	50 - 500 ppm	20 s	CH 20 701
Chlorobenzene 5/a (5)	5 - 200 ppm	3	67 28 761
Chlorodioxide 0.025/a specific	0.025 - 1 ppm	7.5	81 03 491
Chloroform 2/a (5)	2 - 10 ppm	9	67 28 861
Chloroformates 0.2/b	0.2 - 10 ppm	3	67 18 601
Chloropicrin 0.1/a	0.1 - 2 ppm	8	81 03 421
Chloropren 5/a	5 - 60 ppm	3	67 18 901
Chromic Acid 0.1/a (9)	0.1 - 0.5 mg/m ³	8	67 28 681
Cyanide 2/a	2 - 15 mg/m ³	2.5	67 28 791
Cyanogen Chloride 0.25/a	0.25 - 5 ppm	5	CH 19 801
Cyclohexan 100/a	100 - 1 500 ppm	5	67 25 201
Cyclohexylamin 2/a	2 - 30 ppm	4	67 28 931
Diesel Vapour	25 - 200 mg/m ³	30 s	81 03 475
Diethyl Ether 100/a	100 - 4 000 ppm	3	67 30 501
Dimethyl Formamide 10/b	10 - 40 ppm	3	67 18 501
Dimethyl Sulphate 0.005/c (9)	0.005 - 0.05 ppm	50	67 18 701
Dimethyl Sulphide 1/a (5)	1 - 15 ppm	15	67 28 451
Epichlorohydrin 5/b	5 - 50 ppm	8	67 28 111
Ethyl Acetate 200/a	200 - 3 000 ppm	5	CH 20 201
Ethyl Benzene 30/a	30 - 400 ppm	2	67 28 381
Ethyl Formicate 20/a	20 - 500 ppm	5	81 03 541
Ethyl Glycol Acetate 50/a	50 - 700 ppm	3	67 26 801
Ethylene 0.1/a (5)	0.2 - 5 ppm	30	81 01 331
Ethylene 50/a	50 - 2 500 ppm	4	67 28 051
Ethylene Glycol 10 (5)	10 - 180 mg/m ³	7	81 01 351
Ethylene Oxide 1/a (5)	1 - 15 ppm	8	67 28 961
Ethylene Oxide 25/a	25 - 500 ppm	6	67 28 241
Fluoride 0.1/a	0.1 - 2 ppm	5	81 01 491
Formaldehyde 0.2/a	0.5 - 5 ppm 0.2 - 2.5 ppm	1.5 3	67 33 081
Activating tube (for use in conjunction with Formaldehyde 0.2/a tube)			81 01 141
Formaldehyde 2/a	2 - 40 ppm	30 s	81 01 751
Formic Acid 1/a	1 - 15 ppm	3	67 22 701
Halogenated Hydrocarbons 100/a (8)	100 - 2 600 ppm	1	81 01 601
Hexane 100/a	100 - 3 000 ppm	3	67 28 391
Hydrazine 0.01/a	0.3 - 5 ppm 0.01 - 0.25 ppm	5 20	81 03 351
Hydrazine 0.25/a	0.25 - 10 ppm 0.1 - 5 ppm	1 2	CH 31 801
Hydrocarbon 0.1%/b	0.1 - 1.3 Vol.-%	3	CH 26 101
Hydrocarbon 2	3 - 23 mg/L	5	CH 25 401
Hydrochloric Acid 0.2/a	0.2 - 3 ppm	2	81 03 481
Hydrochloric Acid 1/a	1 - 10 ppm	2	CH 29 501

Dräger-Tubes for Short Term Monitoring

Dräger-Tube For Short Term Monitoring	Standard Range of Monitoring [20°C, 1013 hPa]	Duration [min.]	Order No.
Hydrochloric Acid 50/a	500 - 5 000 ppm 50 - 500 ppm	30 s 4	67 28 181
Hydrochloric Acid/Nitric Acid 1/a			81 01 681
-Nitric Acid	1 - 15 ppm	3	
-Hydrochloric Acid	1 - 10 ppm	1.5	
Hydrocyanic Acid 2/a	2 - 30 ppm	1	CH 25 701
Hydrogen Fluoride 0.5/a	0.5 - 15 ppm 10 - 90 ppm	2 25 s	81 03 251
Hydrogen Fluoride 1.5/b	1.5 - 15 ppm	2	CH 30 301
Hydrogen Sulphide 0.2%/A	0.2 - 7 Vol.-%	2	CH 28 101
Hydrogen Sulphide 0.2/a	0.2 - 5 ppm	5	81 01 461
Hydrogen Sulphide 0.2/b	0.2 - 6 ppm	55 s	81 01 991
Hydrogen Sulphide 0.5/a	0.5 - 15 ppm	6	67 28 041
Hydrogen Sulphide 1/c	10 - 200 ppm 1 - 20 ppm	20 s 3.5	67 19 001
Hydrogen Sulphide 1/d	10 - 200 ppm 1 - 20 ppm	1 10	81 01 831
Hydrogen Sulphide 100/a	100 - 2 000 ppm	30 s	CH 29 101
Hydrogen Sulphide 2%/a	2 - 40 Vol.-%	1	81 01 211
Hydrogen Sulphide 2/a	20 - 200 ppm 2 - 20 ppm	20 s 3.5	67 28 821
Hydrogen Sulphide 2/b	2 - 60 ppm	30 s	81 01 961
Hydrogen Sulphide 5/b	5 - 60 ppm	4	CH 29 801
Iodine 0.1/a	1 - 5 ppm 0.1 - 0.6 ppm	1 5	81 03 521
Mercaptan 0.1/a	0.05 - 15 ppm	3	81 03 281
Mercaptan 0.5/a	0.5 - 5 ppm	5	67 28 981
Mercaptan 20/a	20 - 100 ppm	2.5	81 01 871
Mercury Vapour 0.1/b	0.05 - 2 mg/m ³	10	CH 23 101
Methyl Acrylate 5/a	5 - 200 ppm	5	67 28 161
Methyl Bromide 0.2/a	0.2 - 8 ppm	8	81 03 391
Methyl Bromide 0.5/a	5 - 30 ppm 0.5 - 5 ppm	2 5	81 01 671
Methyl Bromide 3/a (5)	10 - 100 ppm 3 - 35 ppm	1 3	67 28 211
Methyl Bromide 5/b	5 - 50 ppm	1	CH 27 301
Methylene Chloride 00/a	100 - 2 000 ppm	3	67 24 601
MITC 0.2/a	0.2 - 10 ppm	3.5	81 03 485
Natural Gas -Odorizing, Tertiary Butyl Mercaptan	3 - 5 mg/m ³ 1 - 10 mg/m ³	3 5	81 03 071
Natural Gas Test (5)	qualitative	40 s	CH 20 001
Nickel Tetracarbonyl 0.1/a (9)	0.1 - 1 ppm	5	CH 19 501
Nitric Acid 1/a	5 - 50 ppm 1 - 15 ppm	2 4	67 28 311
Nitrous Fumes 0.5/a	0.5 - 10 ppm	40 s	CH 29 401
Nitrous Fumes 100/c	100 - 1 000 ppm 500 - 5 000 ppm	1.5 1.5	CH 27 701
Nitrous Fumes 2/a	5 - 100 ppm 50 ppm	1 2	CH 31 001

Dräger-Tubes for Short Term Monitoring

Dräger-Tube For Short Term Monitoring	Standard Range of Monitoring [20°C, 1013 hPa]	Duration [min.]	Order No.
Nitrous Fumes 20/a	20 - 500 ppm	30 s	67 24 001
Nitrous Fumes 50/a	250 - 2 000 ppm	30 s	81 01 921
	50 - 1 000 ppm	1	
Oil 10/a-P	0.1 - 1 mg/m ³	25	67 28 371
Oil Mist 1/a	1 - 10 mg/m ³	25	67 33 031
Olefine 0.05%/a		5	CH 31 201
-Butylene	0.04 - 2.4 Vol.-%		
-Propylene	0.06 - 3.2 Vol.-%		
Organ. Arsenic compounds and Arsine	0.3 mg/m ³ as AsH ₃	30 s	CH 26 303
Organ. Basic Nitrogen-Compounds	1 mg/m ³ threshold value	1.5	CH 25 903
Oxygen 5%/B (8)	5 - 23 Vol.-%	1	67 28 081
Oxygen 5%/C	5 - 23 Vol.-%	1	81 03 261
Ozone 0.05/b	0.05 - 0.7 ppm	3	67 33 181
Ozone 10/a	20 - 300 ppm	20 s	CH 21 001
Pentane 100/a	100 - 1 500 ppm	3	67 24 701
Perchloroethylene 0.1/a	0.5 - 4 ppm	3	81 01 551
	0.1 - 1 ppm	9	
Perchloroethylene 10/b	10 - 500 ppm	40 s	CH 30 701
Perchloroethylene 2/a	20 - 300 ppm	30 s	81 01 501
	2 - 40 ppm	3	
Petroleum Hydrocarbon 10/a	10 - 300 ppm	1	81 01 691
Petroleum Hydrocarbon 100/a	100 - 2 500 ppm	30 s	67 30 201
Phenol 1/b	1 - 20 ppm	5	81 01 641
Phosgene 0.02/a	0.02 - 1 ppm	6	81 01 521
	0.02 - 0.6 ppm	12	
Phosgene 0.05/a	0.04 - 1.5 ppm	11	CH 19 401
Phosgene 0.25/c	0.25 - 5 ppm	1	CH 28 301
Phosphine 0.01/a	0.1 - 1 ppm	2.5	81 01 611
	0.01 - 0.3 ppm	8	
Phosphine 0.1/a	0.1 - 4 ppm	6	CH 31 101
Phosphine 0.1/b	1 - 15 ppm	20 s	81 03 341
in Acetylene	0.1 - 1 ppm	4	
Phosphine 1/a	20 - 100 ppm	2	81 01 801
	1 - 20 ppm	10	
Phosphine 25/a	200 - 10 000 ppm	1.5	81 01 621
	25 - 900 ppm	13	
Phosphine 50/a	50 - 1 000 ppm	2	CH 21 201
Phosphoric Acid Esters 0.05/a	0.05 ppm Dichlorvos	5	67 28 461
Polytest	qualitative	1.5	CH 28 401
Pyridin 5/A	5 ppm	20	67 28 651
Sulphur Dioxide 0.1/a	0.1 - 3 ppm	20	67 27 101
Sulphur Dioxide 0.5/a	1 - 25 ppm	3	67 28 491
	0.5 - 5 ppm	6	
Sulphur Dioxide 1/a	1 - 25 ppm	3	CH 31 701
Sulphur Dioxide 20/a	20 - 200 ppm	3	CH 24 201
Sulphur Dioxide 50/b	400 - 8 000 ppm	15 s	81 01 531
	50 - 500 ppm	3	

Dräger-Tubes for Short Term Monitoring

Dräger-Tube For Short Term Monitoring	Standard Range of Monitoring [20°C, 1013 hPa]	Duration [min.]	Order No.
Sulphuric Acid 1/a (9)	1 - 5 mg/m ³	100	67 28 781
Sulphuryl Fluoride 1/a (5)	1 - 5 ppm	2	81 03 471
Tertiary Butylmercaptan	3 - 5 mg/m ³	3	81 03 071
Tetrahydrothiophen 1/b (5)	1 - 10 ppm	10	81 01 341
Thioether	1 mg/m ³ threshold Value	1.5	CH 25 803
Toluene 100/a	100 - 1 800 ppm	1.5	81 01 731
Toluene 5/b	50 - 300 ppm	1	81 01 661
	5 - 80 ppm	5	
Toluene 50/a	50 - 400 ppm	1.5	81 01 701
Toluylene Diisocyanate 0.02/A (9)	0.02 - 0.2 ppm	20	67 24 501
Trichloroethane 50/d (5)	50 - 600 ppm	2	CH 21 101
Trichloroethylene 2/a	20 - 250 ppm	1.5	67 28 541
	2 - 50 ppm	2.5	
Trichloroethylene 50/a	50 - 500 ppm	1.5	81 01 881
Triethylamine 5/a	5 - 60 ppm	2	67 18 401
Vinyl Chloride 100/a	100 - 3 000 ppm	4	CH 19 601
Vinyl Chloride 0.5/b	5 - 30 ppm	30 s	81 01 721
	0.5 - 5 ppm	3	
Vinyl Chloride 1/a	5 - 50 ppm	2	67 28 031
	1 - 10 ppm	8	
Water Vapour 0.1	1 - 40 mg/L	2	CH 23 401
Water Vapour 0.1/a	0.1 - 1.0 mg/L	1.5	81 01 321
Water Vapour 1/b	20 - 40 mg/L	20 s	81 01 781
	1 - 15 mg/L	40 s	
Water Vapour 20/a-P	20 - 100 mg/m ³	10	81 03 061
Water Vapour 20/a-P	100 - 500 mg/m ³	5	
Water Vapour 5/a-P	2 - 450 mg/m ³	25	67 28 531
Xylene 10/a	10 - 400 ppm	1	67 33 161

Dräger Simultaneous Test Set

Whenever potential gas hazards are to be determined in the shortest possible time Dräger Simultaneous Test Sets are a safe means to aid decision making. Dräger tube kits are the most efficient means of identifying unknown substances. The entire monitoring equipment is user friendly and housed in a case.



ST-1362-2004

Dräger Simultaneous Test Set:
Parallel monitoring of
up to five gases.

Quick application in dangerous on site situations

Using Dräger Simultaneous Test Sets in the event of air pollution brought about by chemical accidents or fires it can be established within a few minutes whether or to what extent there is a danger to persons or the environment and whether there is a risk of explosion. For special applications (e.g. the monitoring of organic fire gases or organic vapour) different tube sets are available which permit quick identification and quantification of any detected substances. Dräger Simultaneous Test Sets do not depend on a power supply and can be used immediately.

Easy to handle

For semi-quantitative monitoring five tubes are arranged in a rubber housing as a test set. The quantity of air to be tested is sucked through a tube by a gas detector pump. Concentrations considered as "harmless" and "alarming" are easily read by markings on the tube. Since simultaneous testing involves a system solution for which special tubes were developed it is not possible to replace them with other Dräger tubes.

ORDER INFORMATION

		Duration [min]	Order No.
Dräger Simultaneous Test Set I	Inorganic fire gases	40 s	81 01 735
Dräger Simultaneous Test Set II	Inorganic fire gases	40 s	81 01 736
Dräger Simultaneous Test Set III	Organic vapours	2	81 01 770
Dräger Simultaneous Test Set main substances		2	81 03 170
Dräger Simultaneous Clandestine Lab Test Set	Solvent	1	81 03 310
Dräger Simultaneous Fumigation Test Set	Fumigants	3	81 03 410
Dräger Simultaneous Container Fumigation Test Set 1	Fumigants	4	81 03 380
Dräger Simultaneous Test Set "Polytest"	qualitative	1.5	CH 28 401
Adapter Simultaneous Test Set consisting of Cutter holder and Adapter [EZG 311]			64 00 090
Fit-up aid for 81 03 380			83 18 110

Dräger Fumigation Kit

To measure concentrations of fumigating agents in containers it is recommended to use the Simultantest Set "Fumigation". This will permit rapid information about the existence of fumigating agents and their identification. Even on closed containers monitoring can be quickly and safely carried out without the user being exposed to the substances contained therein.



ST-6756-2006

Dräger Fumigation Kit:
Quick and easy detection
of fumigant gases.

Mobile and quick

Containers are not always sufficiently documented. Based on proven Dräger tubes the Dräger fumigating case contains a complete set of monitoring equipment in order to determine whether a container has in fact been fumigated. Within a few minutes a statement can be produced to show how high the concentration is in the container, or whether it must be ventilated. With the Simultantest-Set and a Dräger Safety devised monitoring strategy the fumigating agent can be quickly and reliably determined.

Simple and safe monitoring

Measurements can even be taken on closed containers. To do this the probe

contained in the case can be pushed through a rubber seal in the container door. By means of the rubber sleeve in the Dräger tube and the scale the user can determine the exact gas concentration in the container after a few strokes of the gas detector pump.

Large choice of substances

Other than the currently most popular fumigating agents (Formaldehyde, Methyl-Bromide and Hydrogen Phosphide) the Dräger Fumigation Kit can also be equipped with the recently developed Sulphur Fluoride tubes.

ORDER INFORMATION

Dräger fumigation case (empty)				83 17 147
Gas detector pump accuro				64 00 000
Dräger container probe				83 17 188
Extension hose for Simultaneous Set, (1 meter)				64 00 561
Adapter Simultaneous Set				64 00 090
Spare part set accuro				64 00 220
Fumigant	Dräger-Tubes	Measuring Range		Order No.
Ammonia (NH ₃)	Ammonia 5/a	5	to 700 ppm	CH 20 501
Hydrocyanic Acid (HCN)	Hydrocyanic Acid 2/a	2	to 30 ppm	CH 25 701
Chloropicrin (CCl ₃ NO ₂)	Chloropicrin	0.1	to 2 ppm	81 03 421
Ethylene Oxide (C ₂ H ₄ O)	Ethylene Oxide 1/a	1	to 15 ppm	67 28 961
Formaldehyde (HCHO)	Formaldehyde 0.2/a	0.2	to 5 ppm	67 33 081
Carbon Dioxide (CO ₂)	Carbon Dioxide 0.1%/a	0.1	to 6 Vol.-%	CH 23 501
Carbon Monoxide (CO)	Carbon Monoxide 10/b	10	to 3000 ppm	CH 20 601
Methyl Bromide (CH ₃ Br)	Methyl Bromide 0.2/a	0.2	to 8 ppm	81 03 391

Dräger Fumigation Kit

Hydrogen Phosphide (PH ₃)	Hydrogen Phosphide 0.1/a	0.1	to	4	ppm	CH 31 101
Sulphuryl Fluoride (SO ₂ F ₂)	Sulphuryl Fluoride Test	1	to	5	ppm	81 03 471
Dräger Simultaneous Fumigation Test Set						81 03 410
Consisting of:						
Ammonia (NH ₃)	Ammonia 5/a	5	to	700	ppm	
Hydrocyanic Acid (HCN)	Hydrocyanic Acid 2/a	2	to	30	ppm	
Formaldehyde (HCHO)	Formaldehyde 0.2/a	0.2	to	5	ppm	
Methyl Bromide (CH ₃ Br)	Methyl Bromide 0.5/a	0.5	to	30	ppm	
Hydrogen Phosphide (PH ₃)	Hydrogen Phosphide 0.1/a	0.1	to	4	ppm	

Dräger Civil Defense Set

Due to the increased likelihood of terrorist attacks the identification of chemical warfare agents is becoming ever more important. With its Civil Defence Simultantest Kits well proven in the field Dräger Safety offers combat forces a solution to safely overcome even these challenges. All monitoring equipment is contained in a single case.

Prepared for danger

For each application there are four different tube sets available. With their help the most frequently used warfare agents which attack nerves, skin, blood and lungs can be identified and monitored.

- this guarantees even in stressful situations correct handling and thus reliable results.

The results of the analysis are presented within five minutes. As they are not expensive to purchase and require minimal maintenance Dräger CDS Kits offer an optimal solution to deal with current threats.

Mobile and ready for use

The sets do not require any warm up time and are immediately ready for use. Connect the basic application set to the gas detector pump, draw a sample of air through and observe the change in colour



ST-6723-2006

Dräger Civil Defense Set:

Facilitates identification of chemical warfare agents.

Dräger Civil Defense Set

ORDER INFORMATION

Dräger CDS I			81 03 140
Substance	Dräger-Tube	Detection Limits	
Hydrocyanic Acid	Hydrocyanic Acid	1	ppm
Phosgene	Phosgene	0.2	ppm
Lewisit	Org. Arsenic compound	3	mg/m ³ (org.)
	and Arsenic	0.1	ppm (Arsine)
N-Lost	Org. Basic Nitrogen compounds anic	1	mg/m ³
S-Lost	Thioether	1	mg/m ³
Dräger CDS V			81 03 200
Nerve gas	Phosphoric Acid ester	0.025	ppm
Phosgene	Phosgene	0.2	ppm
Chlorcyan	Chlorcyan	0.25	ppm
Chlorine	Chlorine	0.2	ppm
S-Lost	Thioether	1	mg/m ³
Training set for CDS I			81 03 230
Training set for CDS V			81 03 240
CDS-opener			64 00 090
accuro pump			64 00 000
User Instruction, laminated			90 44 333
Carrying Case, empty			81 00 190

Dräger Diffusion Tubes

Direct personal monitoring: Dräger Diffusion tubes with their direct display were developed especially for personal monitoring. With their help average concentrations over periods of several hours can be determined.

Minimal expenditure

It is not necessary to use a gas detector pump on these systems since the molecules of harmful substances reach the tubes via a diffusion process and meet up with the respective reagent system.

Reliable average concentrations

Dräger diffusion tubes with direct display are optimally suitable for person related identification of average concentrations over a period of one to eight hours.

Easy to handle

For a reliable result the monitoring system is secured to the clothing at a height suitable for an intake of breath.

Alternatively: In order to accurately determine the content for a user the Dräger diffusion tube is fitted with a holder at a height suitable for breathing in. The result is easily read on the printed scale on the tube (colour bar display). After monitoring is complete the read-off value is converted into an average concentration.



Dräger Diffusion Tubes:
For personal monitoring.

Dräger Diffusion Tubes

ORDER INFORMATION

Holder for diffusion tube with break off instrument and clip for fitting to clothing (set of three items)	67 33 014
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Dräger-Tube	Standard monitoring range at 1 hour duration [20°C, 1013 hPa]			Standard monitoring range at max duration [20°C, 1013 hPa]			Order No.
Acetic Acid 10/a-D	10	-	200 ppm	1.3	-	25 ppm	81 01 071
Ammonia 20/a-D	20	-	1 500 ppm	2.5	-	200 ppm	81 01 301
Butadiene 10/a-D	10	-	300 ppm	1.3	-	40 ppm	81 01 161
Carbon Dioxide 1%/a-D	1	-	30 Vol.-%	0.13	-	4 Vol.-%	81 01 051
Carbon Dioxide 500/a-D	500	-	20 000 ppm	65	-	2 500 ppm	81 01 381
Carbon Monoxide 50/a-D	50	-	600 ppm	6	-	75 ppm	67 33 191
Ethanol 1000/a-D	1 000	-	25 000 ppm	125	-	3 100 ppm	81 01 151
Hydrochloric Acid 10/a-D	10	-	200 ppm	1.3	-	25 ppm	67 33 111
Hydrocyanic Acid 20/a-D	20	-	200 ppm	2.5	-	25 ppm	67 33 221
Hydrogen Sulphide 10/a-D	10	-	300 ppm	1.3	-	40 ppm	67 33 091
Nitrogen Dioxide 10/a-D	10	-	200 ppm	1.3	-	25 ppm	81 01 111
Sulphur Dioxide 5/a-D	5	-	150 ppm	0.7	-	19 ppm	81 01 091
Toluene 100/a-D	100	-	3 000 ppm	13	-	380 ppm	81 01 421
Trichloroethylene 200/a-D	200	-	1000 ppm	25	-	125 ppm	81 01 441

Dräger Gas Detector Pump accuro

Together with Dräger short term tubes the product family of Dräger gas detector pumps forms the perfect team for monitoring spot concentrations. The gas detector pump accuro which can be used single handed is particularly suitable for short term measurements in confined places.

Safe operation with one hand

Measurements are frequently taken on ladders and staging, in shafts or in confined places. The Dräger accuro gas detector pump is the perfect solution for these types of places since it can be easily and safely operated with one hand.

Reliable principle

With the gas detector pump the air sample is drawn into the Dräger tube. The in-built trimming mechanism guarantees parallel compression of the pump. The end of the pump stroke is clearly and easily displayed for the user.

Flexible to use

Since the gas detector pump works without an external power source it can be used in areas where there may be a risk of explosion.

Robust and maintenance friendly

All Dräger gas detector pumps (accuro, accuro 2000 and Quantimeter 1000) are renowned for their robustness and particularly low maintenance costs.

ST/2436-2003



Dräger Gas Detector Pump accuro:
Easy to handle, reliable, proven.

Dräger Gas Detector Pump accuro

ORDER INFORMATION

Dräger accuro	
Dräger gas detector pump accuro with tube opener Dräger TO 7000	64 00 000
Dräger accuro gas detector set consisting of:	64 00 260
Dräger accuro gas detector, preparatory case,	
Tube opener Dräger TO 7000 and spare parts set for Dräger accuro	
Gas detector set, consisting of: Dräger gas detector pump accuro,	83 17 186
spare parts set Dräger accuro, nylon carrying case.	
MDG Kit (Dräger accuro), consisting of: Dräger gas detector pump accuro,	83 18 392
spare parts set Dräger accuro, carrying case, Dräger accuro	
Spare parts set Dräger accuro	64 00 220

Dräger accuro 2000

Together with Dräger short term tubes the Dräger gas detector pump product family forms the perfect team for the monitoring of spot concentrations. Together with the Dräger accuro 2000 users have at their disposal a fully automatic pump system for short term measurements.



Dräger accuro 2000:
Automatically the correct number of strokes.

Automatically produces correct number of strokes

In the Dräger dispenser pump accuro 2000 the gas detector pump is the key element of the monitoring instrument. The Dräger accuro 2000 is particularly suitable where many measurements are required or when a high volume of air has to be drawn through the tube. The automatic pump saves time and energy. It also guarantees the correct number of even strokes in stressful situations (can be programmed up to 199).

Easy to operate

With only a few hand operations the dispenser pump is ready for use: Insert the

manual gas detector pump, open the Dräger tube and fit. After the required number of strokes have been selected to carry out the monitoring the gas detector pump accuro is automatically compressed in the pump dispenser Dräger accuro 2000. An indicator defining the end of the stroke and a Liquid Crystal Display supports the controlled pump procedure.

Robust and maintenance friendly

All Dräger gas detector pumps (Dräger accuro, Dräger accuro 2000 and Dräger Quantimeter 1000) are renowned for their robustness and particularly low maintenance costs.

Dräger accuro 2000

ORDER INFORMATION

Dräger accuro 2000

Dräger accuro 2000 dispenser pump to activate the gas detector pump accuro inc. battery pack.

64 00 200

Note:

The gas detector pump Dräger accuro 64 00 000 is not included in the scope of delivery.

Charger lead 6V/800 mA

83 16 992

Battery pack Dräger accuro 2000

64 00 202

Dräger Quantimeter 1000

Together with the Dräger short term tubes, the product family of Dräger gas detector pumps form the perfect team for the monitoring of spot concentrations. The Dräger Quantimeter 1000 is an automatic micro-processor controlled high performance pump and is particularly suitable for short term measurements with greater numbers of strokes and continuous operation.

Micro-processor controlled reliability

The Dräger Quantimeter 1000 is a fully automatic gas detector pump built in compact form. By means of its micro-processor controlled bellows pump the instrument used for short term measurements offers a greater number of strokes or when used continuously offers great reliability and comfort during service. The number of strokes can be pre-selected from 1 to 199, whereby a nominal / actual comparison between the pre-set and actual strokes is shown on two Liquid Crystal Displays.

Power free energy supply

The equipment is operated by a rechargeable battery. The battery capacity permits measurements to be taken with a continuous operation of 1,000 strokes.

Flexible application

The Quantimeter 1000 can be used in areas where there is a risk of explosion.

Robust and maintenance friendly

All Dräger gas detector pumps (accuro, accuro 2000 and Quantimeter 1000) are renowned for their robustness and particularly low maintenance costs.



ST-1372-2004

Dräger Quantimeter 1000:

Compact, automatic and microprocessor controlled.

Dräger Quantimeter 1000

ORDER INFORMATION

Dräger Quantimeter 1000	81 01 000
Micro-processor controlled automatic gas detector pump. Included in delivery are: Carrying strap, special key, hex key, charger adapter, spare part set.	
Accessories for Dräger Quantimeter 1000	
Leather carrying case	81 00 200
Reserve-battery pack	81 00 230
Spare part set Dräger Quantimeter	81 01 005
Extension hose, 3 m (with connector)	64 01 147
Charger lead 6 V/800 mA	83 16 992
Charger adapter new for 83 16 992 (for charger for Dräger Quantimeter 1000)	83 18 257
Charger adapter old for 68 05 855 (for charger for Dräger Quantimeter 1000)	81 00 270
Accessories for gas monitoring system Dräger accuro	
Extension hose Dräger accuro, 1 m	64 00 561
Extension hose Dräger accuro, 3 m	64 00 077
Extension hose Dräger accuro, 10 m	64 00 078
Extension hose Dräger accuro, 15 m	64 00 079
Carrying case	81 00 228
Snap-on clip for carrying case	81 00 229
Nylon portable pouch	45 94 631
Dangerous substance case less contents	64 00 225
Fumigating case less contents	83 17 147
Tube opener Dräger TO 7000	64 01 200
Heating battery holder, complete inc. 2 heater batteries	83 16 130
Heating batteries (2 pcs.)	83 16 139
Hot air probe CH00 213 to analyse exhaust gases on firing plant	
Bar probe 400	83 17 188
to analyse fumigating agents in containers	
Car-Exhaust gas probe for the analysis of exhaust gases	CH 00 214
NIOSH Adapter	67 28 639

Dräger TO 7000

With the tube opener Dräger TO 7000 traditional short term tubes, ampoule tubes and double tubes can be opened without splitting the breaking edge. Additional functions of the Dräger TO 7000 make Dräger tubes easy to handle.



ST-1980-2005

Dräger TO 7000:
For simple and safe opening
of Dräger tubes.

Easy and safe handling

Compared to previous methods it has clearly become much easier to open Dräger tubes and break off the tops. A simple turn of the top of the tube is sufficient to scratch the top and break it off in a controlled manner. Even opening ampoule tubes and double tubes connected to a shrink sleeve wrapping has become easier.

This can easily be broken without damaging the protective sleeve.

Other uses

With its printed white monitoring scale the Dräger TO 7000 offers a bright background which makes the tube easy to read. The opener material is chemical resistant.

ORDER INFORMATION

Dräger TO 7000

64 01 200

Dräger Hot-Pack-Holder for Dräger-Tubes

Warmth without power: The Dräger Hot-Pack-Holder allows Dräger tubes to be used below the temperature limits defined in the user instructions and guarantees the required accuracy.



ST-1374-2004

**Dräger Hot-Pack-Holder for
Dräger-Tubes:**
Also measured at minus temperatures.

Accuracy below freezing point

Even in icy cold conditions the first tube heaters without a power supply were not affected. The use of the Dräger Hot-Pack-Holder allows Dräger-tubes to be used in temperatures below those limits defined in the user instructions. All Dräger tubes for short term monitoring (except for Dräger analysis tubes) can be used in temperatures of -20°C . By using the Hot-Pack-Holder for Dräger tubes it is guaranteed that the accuracy for Dräger tubes is maintained even under extreme conditions.

Easy to handle

The Hot-Pack-Holder can be used on site at any time and is ready for use when gripped by the hand. A solution of sodium acetate crystallises due to the pressure of the starter which is heated as an exothermic reaction. The heater cells give off heat to the tubes contained in the holder.

Cost effective operation

Heater cells can be re-activated some 100 times by boiling in water or in a microwave.

Dräger Hot-Pack-Holder for Dräger-Tubes

ORDER INFORMATION

Dräger Hot-Pack-Holder, complete inc. 2 heater-cells	83 16 130
Heater-cells (2 pcs.)	83 16 139

Dräger Aerotest

The innovative Dräger Aerotest product family ensures the greatest possible degree of accuracy and safety when monitoring gases under pressure. The purity of atmospheric air, industrial compressed air, medicinal gases and even carbon dioxide can be tested within a few minutes using the various Aerotest systems.

ST-1337-2004



Dräger Aerotest:
Atmospheric air safely tested.

The air is clean with Dräger Aerotest systems

Every day firefighters and users in the fields of medicine and diving rely on a compressed air analysis carried out by Dräger Safety. More than 100 years experience in this field guarantees monitoring techniques of the highest order. A recent development in this field is the Aerotest product line which is based on the Dräger tube. It permits a simultaneous monitoring of hazardous substances in the air flow as well as in oxygen and carbon dioxide. By using the Aerotest system it is possible to guarantee conformation to strict quality requirements for air control in accordance with DIN EN 12 021 of the European Pharmacy Commission. Depending on the area of application there are a large number of Aerotest systems available to measure the purity of compressed gases. All sets are assembled in a case and are ready for use.

Dräger Aerotest Alpha

The concentration display is language free and shows all information in large numbers or signs. In the event of an alarm or on pressing a button information can be clearly read with the help of an illuminated display. The display continually shows concentrations as well as instructional and warning functions. In addition, respective high concentrations, average concentrations (TWA-values) and short term exposures (STEL-values) can be called up during the monitoring period.

Dräger Aerotest for the Navy

It is essential that air inhaled during diving operations is tested. The Dräger Aerotest measures Oil, CO₂ and CO and other typical impurities in the air stream which are supplied by high pressure compressors or compressed air at a max. pressure of 300 bar. The pressure is set by a pressure reducer valve whilst a flow meter measures the air being tested. Compressed air is fed by a special pipe which permits a quantitative evaluation.

ORDER INFORMATION

Dräger Aerotest Simultan HP, complete	65 25 951
Dräger Aerotest Alpha, complete	65 27 150
Dräger Aerotest Light, complete	65 25 950
Dräger MultiTest med. Int., complete	65 27 320
Dräger SimultanTest CO ₂ , complete	65 26 170

Dräger Analysis Service

The multi-task profile of Dräger services covers research and development, on-site analysis service as well as preparation of reports and studies for extracted samples – tailored to customer requirements. The customer can decide whether he wants to take a sample himself or call upon the complete services of Dräger Analysis Service.



ST-965-2004

Dräger Analysis Service:
Service – professional
and certificated.

Dräger Analysis Service specialises in the investigation of harmful and dangerous substances which might escape into the air. Sealed samples taken by the customer are analysed in accordance with certified methods and detailed results are documented in a test report.

Potential areas of monitoring include:

- Work places which are surrounded by dangerous substances
- Offices and other internal rooms (e.g. nurseries, flats, car interiors etc.) in which air through the transpiration of building materials or the like is contaminated
- Exhaust air from industrial concerns and industry
- Compressed air
- Residual air in contaminated flooring
- Escape of gases or fumes from samples.

In order that a sample can be taken carefully by a customer Dräger Safety offers the correct monitoring system, for example, Dräger tubes for active sampling or the Dräger diffusion collector ORSA, which, amongst other things, is used for the evaluation of long term average concentrations at the work place. Dräger Analysis Service offers advice to the customer and carries out monitoring of air quality on-site on request.

In modern equipped laboratories there are various methods of instrumental analysis, for example, gas chromatography, high performance fluid chromatography, UV-VIS-photometry and IR spectroscopy which are utilised to evaluate samples both qualitatively and quantitatively. To carry out these tasks, specialist competence and reliability are of the utmost importance. The main objective is always to guarantee absolute safety and to provide accurate results. Naturally any evaluation is based on existing limits and guidelines. The results of an analysis are made known one to two weeks after the sample has been submitted. For especially quick results the Express Service can be used whereby results can be conveyed within three days.

Sample taking on customer request

To develop customer specific solutions Dräger Analysis Service is available together with a comprehensive advisory service. There are no monitoring problems which cannot be resolved. A cost free telephone service is available to answer any queries. To ascertain air pollutants Dräger Safety also offers the end user the Bio-Check-Programme. Identification methods for solvents, formaldehyde, dust mites and mould fungus are available and can be obtained from the chemists.

Dräger Analysis Service

ORDER INFORMATION

Analysis Products

Order No.

Dräger Analysis Service

Analysis of sampling tubes and systems on organic gases, vapours, dangerous substances at the workplace or indoors:

Organic Vapours, such as e.g. Alcohols, BTX, Ester, Ketone, Perchloroethylene or. 19 47 885

Sampling system: Active carbon-tube, ORSA-diffusion collector

General analysis + quantitative analysis of a substance

Quantitative analysis for each further substance 19 47 893

Complete analysis: qualitative and quantitative analysis of all identified VOCs 19 47 915

Volatile organic substances in space 19 47 958

inc. collector agents (Thermo desorption tubes e.g. Tenax)

TDS-VOC-Screening by GC-MS Analysis)

Glycol derivative 19 47 907

Sampling system: Active carbon-tube, ORSA-diffusion collector

Qualitative and quantitative analysis for Glycol derivatives

Ethylene Oxide, Vinyl Chloride 19 47 907

Sampling system: Active carbon-tube, ORSA-diffusion collector

Qualitative and quantitative analysis of Ethylene Oxide or Vinyl Chloride

Methanol or Phenol 19 47 907

Sampling system: Silicagel Tube

Qualitative and quantitative analysis auf Methanol or Phenol

Formic Acid, Acetic Acid 19 47 907

Sampling system: Silicagel Tube

Qualitative and quantitative analysis of Formic Acid or Acetic Acid

Hydrocarbon Mixture 19 47 923

Sampling system: Active carbon-tube, ORSA

Analysis and evaluation as per TRGS 901

Volatile Amino Volatile Amine or N-Heterocyclen 19 47 931

Sampling system: e.g. tube type ADS

Quantitative analysis of a substance

Analysis Review (16 Substances) 19 47 966

Narcotic gas analysis: 19 47 907

Volatile anaesthetics or halogenated organic compounds

Sampling system: Active carbon tubes, ORSA-diffusion collector

Qualitative and quantitative analysis

Tear gas 19 47 907

Sampling system: Tear Gas diffusion collector

Quantitative analysis

Monitoring set for narcotic gases (inc. analysis costs) [EZG 324] 64 00 303

Analyses within framework of a diffusion monitoring: 19 41 178

Nitrogen Dioxide (NO₂)

Sampling system: NO₂ Diffusions collector

5 St. NO₂ collector per Analysis Order

> 50 Collector/Analysis Order /Project

Benzene or BT(E)X 19 41 178

Sampling system: ORSA-diffusion collector

> 50 Collector/Analysis Order /Project

Dräger Analysis Service

Analysis Products

Order No.

Isocyanate and Aldehyde: Isocyanate-Sampling-Set (inc. analysis) [EZG 324] Sampling system inc. analysis e.g. for TDI, HDI, MDI, etc.	64 00 131
Aldehyde-Sampling-Set (inc. analysis) [EZG 324] Sampling system inc. analysis e.g. Formaldehyde, Acetaldehyde, Glutaraldehyde, etc.	64 00 271
An order must be placed within 14 days of receipt of the first analysis, orders placed later will be subject to additional processing cost.	
"Plasticiser" such as e.g. Dioctylphthalate – DOP –, incl. Filter and Silicagel Tubes	19 41 178
Oil Aerosol + Vapours (e.g. measurements at work place) inc. conditioned filter + XAD-cartridges	19 41 178
Residual oil content in compressed air, fumes inc. conditioned filter + XAD-cartridges	
Oil aerosols and vapours analysed together	19 41 178
Oil aerosols and vapours analysed separately	19 41 178
"Tobacco-Smoke contamination" in the ambient air incl. conditioned collector media	19 41 178
Pre-defined quantity collection tube	19 41 178
For tool calibration and investigative comparisons, Ring test as standard for analysis equipment, as a reference material or sampling system: Active Carbon-Tube Type IOSH, B, B-G, Silicagel Tube	
Analysis of Material Sample	
Material sample such as wood, leather, textiles, carpets and house dust can be investigated for pesticides, mould etc.	
Material samples, e.g. synthetic materials could be analysed for emissions of organic compounds	
Timber Protection Agents: Pentachlorophenol (PCP), Lindan and Dichlofluanide Material Sample: wood, dust etc. Other timber protection agents (e.g. Endosulfane, Chlorothalonil, etc. on request)	19 44 304
Pyrethroide: Pyrethroide in wood, dust	19 44 304
Mould: Mould (KBE) = colony forming entities in dust and material	19 41 178
Various: General analysis of material emissions from plastics, chipboard, carpeted floors etc. Residual oil content on surface of material sample (e.g. metals)	19 44 304
Special Services Sampling equipment or systems can be borrowed on a weekly basis	19 41 178

Dräger Flow Test Tubes

Dräger flow test tubes were developed to visualise the smallest air movements. By its easy operation information is immediately available regarding air flow conditions and any potential hazard.



ST-2046-2006

Dräger Flow Test Tubes:

Makes small air movements visible.

Many applications

In some situations the localisation of air streams is particularly important. The smallest air movements must be visible in order to be able to ascertain their source, direction and speed. Whether it is used on industrial machinery or to identify leakages in operating equipment or to trace air flows in heating and laboratory equipment the Dräger flow test tube has proven to be a valuable aid in making essential knowledge readily available. The distribution of vapour gas forming harmful substances in the work place can be established and suitable monitoring points can be determined to measure concentrations.

Easy to handle

After the glass tip has been opened air is forced through the tube by means of a small rubber ball pump. When the air exhausts a strongly diluted sulphuric aerosol is formed which appears as white smoke. Due to its specific weight this smoke is carried in the air stream.

The Dräger flow tester can be used several times and is sealed with rubber caps supplied with the instrument until the next application.

ORDER INFORMATION

Air-flow tester

Air-flow tester kit contained in a carrying box, comprising an aspirator bulb, air flow, test tubes (10 pieces) and sealing caps.

Air-flow tester

CH 00 216

Spare parts

Air-flow test tubes (pack of 10)

CH 25 301

Aspirator bulb

CH 12 868

Dräger Flow Check

Minute air flows can be detected using mist clouds. The Dräger flow check instrument which can be used whenever visualisation of air currents is important. Even when assessing ventilation conditions in central heating and laboratories as well as leakage tests in operating equipment the Dräger Flow Check is indispensable.



ST-06-98

Dräger Flow Check:
Leads the way in air
flow detection.

A leader in air flow technology

The Dräger Flow Check is a flow tester which produces innocuous mist clouds for the environment which depending on the specific weight of the air circulate freely. Minute air currents carry these mist clouds which are visible. In this manner source, direction and speed can be clearly determined. The Flow Check consists of equipment to produce the mist cloud and a cartridge or ampoule with the atomised fluid.

Simple operation – high performance

The Flow Check incorporates an attractive design with an ergonomically practical shape, light weight and optimal operation.

The equipment can be used in any position. Depending on the need individual small mist clouds can be emitted or continuous supplies of mist can be produced by pressing the button repeatedly. The ampoule with the atomised fluid is located under a cover in the grip and can easily be inserted in the holder unit. The amount of atomised fluid in one cartridge is sufficient for three minutes continuous use.

Variable energy supply

A rechargeable battery provides the power supply. Using an adapter cable the instrument can be charged up via a cigarette lighter in a vehicle.

ORDER INFORMATION

Flow tester Dräger Flow Check (without charger)	64 00 761
With a packet of cartridges, battery pack packed in a plastic case.	
Universal charger 4,8 V - 12 V/600mA	83 16 993
Mist cartridge Dräger Flow Check (3 mist cartridges)	64 00 812
Vehicle adapter cable	64 00 803
Spare battery pack	64 00 817

Dräger CMS Analyzer

With its worldwide unique Chip-Measuring-System Dräger Safety has considerably simplified the spot monitoring of gases and solvent vapours. The innovative Dräger CMS, based on the component analyser and chip, incorporates the advantages of Dräger tubes with those of an opto-electrical evaluation system and sets new standards with regard to accuracy and reliability.

ST-166-2004



Dräger CMS Analyzer:
High precision, safe and easy to use.

Particularly user-friendly

The battery-powered Dräger CMS can be used immediately with very little training. The complete manual single button operation is included in a menu. Together with an automatic system test the instrument is easy to handle. The display text can be called up in various languages. Irrespective of which gases or vapours are measured the operational steps are the same: The chip is inserted, measurements taken and the results shown on the display as a concentration. The end of each individual stage is confirmed by an audible signal. At the end of the monitoring phase the analyzer switches itself off.

Guaranteed, robust and accurate

The principle of mass flow monitoring guarantees that the instrument is not affected by fluctuations in air pressure. Chips are calibrated in the factory where the influence of temperature and humidity have already been taken into account. The analyzer is explosion protected and certificated in accordance with ATEX (Europe); UL (USA), UL/CSA (Canada). It is protected against dust and spray water as per IP 54 and is RFI protected.

TECHNICAL DATA

Range of monitoring and solution	Depending on type of chip used
Typical monitoring time	30 s to 5 min within limiting values, depending on type of chip used and concentration of dangerous substance
Preparation for use	immediate use
Intoxication effect	not possible
Calibration	not necessary
Operating temperature	0 to 40 °C
Storage temperature	- 20 to + 60 °C (Analyzer) < 25 °C (Chips)
Air pressure	700 to 1100 hPa
Humidity	0 to 95 % relative, not subject to condensation
Recording monitoring values	Six-fold optics and light system, remission monitoring.

Dräger CMS Analyzer

System diagnosis	Self-activating with micro controller for all system components.	
Display	LCD, alphanumeric with illumination	
Menu Languages	English, German, French, Spanish	
Operating time	Approx. 450 minutes monitoring time	
Power supply	Varta	LR 6 4006
4 x 1.5 V-Batteries of the following type:	Energizer	LR 6 E 91
	Panasonic	LR 6 AM 3 AA MN 1500
	Alkaline/Foil	(PMBC)
Weight	730 g (Analyzer with batteries)	
Dimensions (H x W x D)	215 mm x 105 mm x 65 mm	
Approvals	Sampling Test BVS Europe, Protection Class Ex big II CUT, Test No. BVS 95.D.2109	
	UL USA	Class 1, Div. 1, Groups A, B, C, D, Temp. Code T4, 2P91
	UL Canada	Class 1, Div. 1, Groups A, B, C, D, Temp. Code T4, 2P91
	CSA Canada	Class 1, Div. 1, Groups A, B, C, D, Exira, Temp. Code T4
Type of Protection	Dust and water spray protected according to IP 54	

ORDER INFORMATION

Analyzer Set, consisting of:	64 05 200
Dräger Analyzer with integrated data logger, batteries	
Remote System	64 05 060
for monitoring in confined spaces, incl. 3 m hose	
Telescopic probe 1 m	83 13 025
Extension hose 3 m	83 17 614
Extension hose 10 m	83 17 613
Analyzer Remote	83 17 700
Odorant Test-Set	65 31 224

Dräger CMS Chips

Dräger CMS chips are – next to the Dräger Analyzer – the second most important component in the innovative monitoring system. Intelligent interplay between chip and analyser guarantees the highest degree of accuracy and reliability.

The right chip for each application

Whilst the Dräger Analyzer is the monitoring and evaluation element the chips serve as chemical sensors when monitoring gases and vapours. More than 30 chips are available for the monitoring tasks. Each chip consisting of 10 monitoring capillaries or monitoring channels filled with the same substance specific reagent systems, can be used 10 times. The smallest amounts of reagent guarantee an immediate conversion with the gases or vapours being part of the atmosphere to be measured. The chips are already calibrated in the factory and provide a shelf life of up to two years without calibration.

A perfect team for a reliable result

The relationship between the different chips and the Dräger Analyzer is made via a barcode which is displayed on the chip. It is immediately read via the software included in the analyser. All essential information such as type of gas, monitoring range, necessary parameters is summarised in compressed form which guarantees the user the highest degree of monitoring accuracy.

ST-1347-2004



Dräger CMS Chips:
Tube in miniature.

TECHNICAL DATA

Range of monitoring and solution	Depending on type of chip used	
Typical monitoring time	30 s to 5 min within limiting values, depending on type of chip used and concentration of dangerous substance	
Preparation for use	immediate use	
Intoxication effect	Not possible	
Calibration	Not necessary	
Operating temperature	0 to 40 °C	
Storage temperature	– 20 to + 60 °C (Analyzer), < 25 °C (Chips)	
Air pressure	700 to 1100 hPa	
Humidity	0 to 95 % relative, not subject to condensation	
Recording monitoring values	Six-fold optics and light system, remission monitoring	
System diagnosis	Self-activating with micro controller for all system components	
Display	LCD, alphanumeric with illumination	
Menu Languages	English, German, French, Spanish	
Operating time	Approx. 450 minutes monitoring time	
Power supply	Varta	LR 6 4006
4 x 1.5 V-Batteries of the following type:	Energizer	LR 6 E 91
	Panasonic	LR 6 AM 3 AA MN 1500
	Alkaline/Foil	PMBC
Weight	730 g (Analyser with batteries)	
Dimensions (L x W x H)	215 mm x 105 mm x 65 mm	
Approvals	Sample Test BVS Europe Protection Class EEx ib II CT4, Test Number BVS 95.D.2109	
	UL USA	Class 1, Div. 1, Groups A, B, C, D, Temp. Code T4, 2P91
	UL Canada	Class 1, Div. 1, Groups A, B, C, D, Temp. Code T4, 2P91
	CSA Canada	Class 1, Div. 1, Groups A, B, C, D, Exia, Temp. Code T4
Type of Protection	Dust and spray water protected as per IP 54	

Dräger CMS Chips

ORDER INFORMATION

Description	Measuring Range			Order No.
Acetic Acid	2	-	50 ppm	64 06 330
Acetone	40	-	600 ppm	64 06 470
Ammonia	0.2	-	5 ppm	64 06 550
Ammonia	2	-	50 ppm	64 06 130
Ammonia	10	-	150 ppm	64 06 020
Ammonia	100	-	2000 ppm	64 06 570
Benzene	0.2	-	10 ppm	64 06 030
Benzene	0.5	-	10 ppm	64 06 160
Benzene	10	-	250 ppm	64 06 280
Butadiene	1	-	25 ppm	64 06 460
Carbon Dioxide	200	-	3000 ppm	64 06 190
Carbon Dioxide	1000	-	25000 ppm	64 06 070
Carbon Dioxide	1	-	20 Vol.-%	64 06 210
Carbon Monoxide	5	-	150 ppm	64 06 080
Chlorine	0.2	-	10 ppm	64 06 010
Ethanol	100	-	2500 ppm	64 06 370
Ethylenoxide	0.4	-	5 ppm	64 06 580
Formaldehyde	0.2	-	5 ppm	64 06 540
GasodorTM S-FreeTM	7	-	30 mg/m ³	64 06 590
Hydrochloric Acid	1	-	25 ppm	64 06 090
Hydrochloric Acid	20	-	500 ppm	64 06 140
Hydrocyanic Acid	2	-	50 ppm	64 06 100
Hydrogen Peroxide	0.2	-	2 ppm	64 06 440
Hydrogen Phosphide	0.1	-	2,5 ppm	64 06 400
Hydrogen Phosphide	1	-	25 ppm	64 06 410
Hydrogen Phosphide	20	-	500 ppm	64 06 420
Hydrogen Phosphide	200	-	5000 ppm	64 06 500
Hydrogen Sulphide	0.2	-	5 ppm	64 06 520
Hydrogen Sulphide	2	-	50 ppm	64 06 050
Hydrogen Sulphide	20	-	500 ppm	64 06 150
Hydrogen Sulphide	100	-	2500 ppm	64 06 220
i-Propanol	40	-	1000 ppm	64 06 390
Mercaptan	0.25	-	6 ppm	64 06 360
Methanol	20	-	500 ppm	64 06 380
Methylene Chloride	20	-	200 ppm	64 06 510
MTBE	10	-	200 ppm	64 06 530
Nitrogen Dioxide	0.5	-	25 ppm	64 06 120
Nitrous Fumes	0.5	-	15 ppm	64 06 060
Nitrous Fumes	10	-	200 ppm	64 06 240
Oxygen	1	-	25 Vol.-%	64 06 490
o-Xylol	10	-	300 ppm	64 06 260
Ozone	25	-	1000 ppb	64 06 430
Perchloroethylene	5	-	150 ppm	64 06 040
Petroleum Hydrocarbons	20	-	500 ppm	64 06 200
Petroleum Hydrocarbons	100	-	3000 ppm	64 06 270
Phosgene	0.05	-	2 ppm	64 06 340
Propane	100	-	2000 ppm	64 06 310
Styrene	2	-	40 ppm	64 06 560
Sulphur Dioxide	0.4	-	10 ppm	64 06 110
Sulphur Dioxide	5	-	150 ppm	64 06 180

Dräger CMS Chips

Toluene	10	-	300 ppm	64 06 250
Training Chip	Simulation			64 06 290
Trichlorethylen	5	-	100 ppm	64 06 320
Vinyl Chloride	0.3	-	10 ppm	64 06 170
Vinyl Chloride	10	-	250 ppm	64 06 230
Water Vapour	0.4	-	10 mg/L	64 06 450

Dräger Pac 1000

For short term projects such as shut-down activities the Dräger Pac 1000 is available as a back up for personal monitoring. Maintenance free and reliable the Dräger Pac 1000 monitors ambient air and provides a fast warning of harmful concentrations of carbon monoxide, hydrogen sulphide or oxygen.



ST-181-2005

Dräger Pac 1000:

Handy, maintenance-free and large status display.

100 days operating time

Without changing batteries or sensors the Dräger Pac 1000 can be used maintenance free for over 100 days. By using only two buttons the instrument is easy to operate and a large status display ensures clear reading of concentration during an alarm.

Small, robust and safe

Enclosed in a rubber housing the Dräger Pac 1000 fulfils the requirements of IP 65. This small ergonomic instrument is secured to clothing by means of a crocodile clip.

Dräger Pac 1000 instruments are equipped with new Dräger XXS sensors

and they react rapidly indicating immediately any gas concentrations.

In case of alarm and machine defect the instrument warns the user in three ways: by means of an audible, visual and vibration alarm.

Bump test mode

An equipment functional test can be carried out with the integrated Bump Test Mode and a Bump Test Station.

Configuration and calibration

Individual configurations, calibrations and settings for the Bump Test are carried out via an integrated infrared interface. To do this the Dräger Pac 1000 is connected to a PC with a communications module.

TECHNICAL DATA

Dimensions (W x H x D)	64 x 84 x 20 (Battery Holder: 25) mm	
Weight	106 g	
Ambient conditions	Temperature – 30 to 50 °C	
	Pressure	700 to 1300 hPa
	Humidity	10 to 90 % r.h.
Type of Protection	IP 65	
Display	Language free LCD concentration display, indication of actual concentration, operating time, notice and warning functions	
Operating time (typically at 25 °C)	100 days	
Audible alarm	2-Tone-Alarm, typically > 90 dB (A) at 30 cm	
Approvals	CE mark	(89/336/EEC, 94/9/EC)
	ATEX	I/II M 1/2 G EEx ia IIC, T4
	UL	Class I, II Div 1, Group A, B, C, D, E, F, G, Temp. Code T4
	cUL	Class I, II Div 1, Group A, B, C, D, E, F, G, Temp. Code T4

ORDER INFORMATION

Description	Monitoring Range	Alarm Threshold A 1	Alarm Threshold A 2	Order No.
Dräger Pac 1000 CO (EU)	0 to 500 ppm	30 ppm	60 ppm	83 18 610
Dräger Pac 1000 CO	0 to 500 ppm	on customer request		83 18 613
Dräger Pac 1000 H ₂ S (EU)	0 to 100 ppm	10 ppm	20 ppm	83 18 611
Dräger Pac 1000 H ₂ S	0 to 100 ppm	on customer request		83 18 614
Dräger Pac 1000 O ₂ (EU)	0 to 25 Vol.-%	19 Vol.-%	23 Vol.-%	83 18 612
Dräger Pac 1000 O ₂	0 to 25 Vol.-%	on customer request		83 18 615

Dräger Pac 3000

Optimal for personal monitoring at the work place: the innovative inlet gas monitoring equipment Dräger Pac 3000 reliably monitors the ambient air and gives warning of health damaging concentrations of carbon monoxide, hydrogen sulphide or oxygen.

ST-5022-2004



Dräger Pac 3000:
Easy to handle, reliable
with large status display.

Adjustable operating time

The Dräger Pac 3000 can be operated for over two years without any maintenance. A standard battery supplies the instrument with the necessary energy. To meet in-house standards individual instrument operating times are adjustable (in days).

Easy handling

The twin-button operation guarantees intuitive handling and the large display can be easily read in case of alarm.

Small, robust and safe

The Dräger 3000 is enclosed in a rubber housing and meets the requirements of IP 65. The small ergonomic instrument is

secured to clothing by means of a crocodile clip. Equipped with the new Dräger XXS sensors it reacts rapidly to emerging gas hazards. In case of alarm the instrument emits an audible, visual and vibration warning.

Bump test mode

An equipment functional test can be carried out with the integrated Bump Test Mode and a Bump Test Station manually or automatically.

Configuration and calibration

An integrated infrared interface permits simple configuration and calibration by means of software and a PC.

TECHNICAL DATA

Dimensions (W x H x D)	64 x 84 x 20 (Battery holder: 25) mm	
Weight	106 g	
Ambient conditions	Temperature	-30 to 50 °C
	Pressure	700 to 1300 hPa
	Humidity	10 to 90 % r.h.
Type of protection	IP 65	
Display	Language free LCD concentration display, indication of actual concentration, operating time, notice and warning functions.	
Operating time (typically at 25 °C)	2 years	
Battery Life (typically at 25 °C, 24 hours daily, 1 minute alarm daily)	CO, H ₂ S	> 10,400 hours
	O ₂	> 3,600 hours
Audible alarm	Two-Tone-Alarm, typically > 90 dB (A) at a distance of 30 cm	
Approvals	CE mark	(89/336/EEC, 94/9/EC)
	ATEX	I/II M 1/2 G EEx ia I / IIC, T4
	UL	Class I, II Div 1, Group A, B, C, D, E, F, G, Temp. Code T4
	CUL	Class I, II Div 1, Group A, B, C, D, E, F, G, Temp. Code T4

Dräger Pac 3000

ORDER INFORMATION

Description	Monitoring Range	Alarm Threshold A1	Alarm Threshold A2	Order No.
Dräger Pac 3000 CO (EU)	0 to 500 ppm	30 ppm	60 ppm	83 18 630
Dräger Pac 3000 CO	0 to 500 ppm	on customer request		83 18 633
Dräger Pac 3000 H ₂ S (EU)	0 to 100 ppm	10 ppm	20 ppm	83 18 631
Dräger Pac 3000 H ₂ S	0 to 100 ppm	on customer request		83 18 634
Dräger Pac 3000 O ₂ (EU)	0 to 25 Vol.-%	19 Vol.-%	23 Vol.-%	83 18 632
Dräger Pac 3000 O ₂	0 to 25 Vol.-%	on customer request		83 18 635

Dräger Pac 5000

The Dräger Pac 5000 is the innovative solution for personal gas detection in the workplace. The maintenance free instrument is used for the reliable monitoring of ambient air and gives a fast warning of harmful concentrations of carbon monoxide, hydrogen sulphide or oxygen. The functionality of the Dräger 3000 is extended by the inclusion of a continuous display of gas concentrations and an event logger.

Adjustable operating time

Without changing the sensor the Dräger PAC 5000 can be used for over two years maintenance free.

Easy to operate

Simple operation by an intuitive two button control.

Concentration display

Gas concentrations are continually indicated on a large display unit.

Small, robust and safe

The small ergonomic instrument meets the requirements of IP 65. Equipped with the latest Dräger XXS sensors it reacts rapidly to gas hazards. In an alarm situation a

warning is given in the form of an audible, visual and vibrating alarm.

Bump test mode

A functional test can be undertaken manually or automatically with the integrated Bump Test Mode and a Bump Test station.

Event logger

Equipped with an event logger the instrument can save up to 60 results.

Calibration and configuration

As well as reading the event logger calibration and configuration can be carried out using an infrared interface, software and a PC.



ST-5021-2004

Dräger Pac 5000:

Continuous display and integrated event logger.

Dräger Pac 5000

TECHNICAL DATA

Dimensions (W x H x D)	64 x 84 x 20 (Battery holder: 25) mm	
Weight	106 g	
Ambient conditions	Temperature	-30 to 50 °C
	Pressure	700 to 1300 hPa
	Humidity	10 to 90 % r.h.
Type of protection	IP 65	
Display	Language free LCD concentration display, indication of actual concentration, operating time, notice and warning functions	
Operating time (typically at 25 °C)	2 years	
Battery life (typically at 25 °C, 24 hours daily, 1 minute alarm daily)	CO, H ₂ S	> 10,400 hours
	O ₂	> 3,600 hours
Audible alarm	Two-Tone-Alarm, typically > 90 dB (A) at a distance of 30 cm	
Approvals	CE mark	(89/336/EEC, 94/9/EC)
	ATEX	I/II M 1/2 G EEx ia I / IIC, T4
	UL	Class I, II Div 1, Group A, B, C, D, E, F, G, Temp. Code T4
	cUL	Class I, II Div 1, Group A, B, C, D, E, F, G, Temp. Code T4

ORDER INFORMATION

Description	Monitoring Range	Alarm-Threshold A 1	Alarm-Threshold A 2	Order No.
Dräger Pac 5000 CO (EU)	0 to 500 ppm	30 ppm	60 ppm	83 18 650
Dräger Pac 5000 CO	0 to 500 ppm	on customer request		83 18 653
Dräger Pac 5000 H ₂ S (EU)	0 to 100 ppm	10 ppm	20 ppm	83 18 651
Dräger Pac 5000 H ₂ S	0 to 100 ppm	on customer request		83 18 654
Dräger Pac 5000 O ₂ (EU)	0 to 25 Vol.-%	19 Vol.-%	23 Vol.-%	83 18 652
Dräger Pac 5000 O ₂	0 to 25 Vol.-%	on customer request		83 18 655

Dräger Pac 7000

Small and robust, ergonomic and intuitive, economic and powerful the Dräger Pac 7000 is tailor-made for personal monitoring in the workplace. The innovative gas detector is equipped with a wide range of different applications and is suitable for many tasks in the field. The detector is an impressive instrument offering a high level of reliability and rapid warning against harmful concentrations of CO, CO₂, Cl₂, HCN, H₂S, NH₃, NO₂, O₂, PH₃, SO₂.



ST-1798-2005

Dräger Pac 7000:
Unrestricted with
high performance.

Small, robust and safe

The size and robustness of this instrument make it particularly suitable for use in the field. This ergonomic instrument meets the requirements of IP 65. It is housed in a shockproof rubber housing and is resistant to corrosive chemicals. It can be securely fastened to clothing with a crocodile clip.

Long life

By changing the sensors the Dräger Pac 7000 can be operated over an unlimited period.

Adjustable operating times

In addition the instrument offers the possibility of setting an individual operating time (in days), e.g. a calibration interval, inspection interval or individual operating time.

Easy operation

By means of a two button control.

Four-digit concentration display

The concentration display is language free with large figures or signs making it easy to read. The display continually shows current gas concentrations. Average peak concentrations can be shown as well as short term exposition of the monitoring period.

New sensor technology

The Dräger Pac 7000, like all product families, is equipped with new sensor technology "en miniature". The new Dräger

XXS sensors react rapidly and show emerging gas hazards immediately. The sensor is located in a housing such that gas can enter from the top or the front.

Diverse functions

If the two adjustable alarm thresholds of TWA or STEL concentrations are exceeded the instrument gives off an audible, visual and vibrating alarm signal.

Bump test mode

A functional test can be undertaken manually or automatically with the integrated Bump Test Mode and a Bump Test station. If a function test is necessary instructions will appear on the display. The test interval can be adjusted by the user.

Data logger

The Dräger Pac 7000 has a databank which stores incoming concentrations and results with date and time. Peak concentrations are documented in variably adjustable time intervals. Information can be downloaded to a PC using Dräger Pac Vision or Dräger CC-Vision software.

Simple calibration and configuration

Fresh air and a sensitivity calibration can be undertaken directly on the instrument (preferably protected with a password). Via an IR interface and using Dräger Pac Vision or Dräger CC-Vision software all functions can be configured and calibrations done on a PC.

Dräger Pac 7000

TECHNICAL DATA

Dimensions (W x H x D)	65 x 84 x 20 (Battery holder: 25) mm	
Weight	120 g	
Ambient conditions	Temperature ¹⁾	-30 to 50 °C
	Pressure	700 to 1300 hPa
	Humidity	10 to 90 % r.h.
Type of protection	IP 65	
Display	Language free LCD-Display, continuous display of current concentrations, concentrations during alarm, peak concentrations, TWA and STEL concentrations, operating times as well as instructions and warning functions.	
Typical battery life	3 years (O ₂ Sensor 1.5 years)	
Audible alarm	Two-Tone-Alarm, typically > 90 dB (A) at a distance of 30 cm	
Data logger	Storage of concentrations and events with date and time	
Approvals	CE mark (89/336/EEC, 94/9/EC)	
	ATEX	II 1 G EEx ia IIC, T4 I M 1 EEx ia I, T4
	UL	Class I, II, Div 1, Group A, B, C, D, E, F, G, Temp. Code T4
	cUL	Class I, II, Div 1, Group A, B, C, D, E, F, G, Temp. Code T4
	IECEx	EEx ia IIC, T4

¹⁾ Dräger Pac 7000 CO₂ -20 to 40 °C
 Dräger Pac 7000 HCN -20 to 50 °C
 Dräger Pac 7000 PH₃ -20 to 50 °C

ORDER INFORMATION

Description		Monitoring Range	Alarm-Threshold A 1	Alarm-Threshold A 2	Order No.
Dräger Pac 7000 CO	(EU)	0 to 1999 ppm	30 ppm	60 ppm	83 18 673
Dräger Pac 7000 CO	(USA)	0 to 1999 ppm	on customer request		83 18 970
Dräger Pac 7000 CO		0 to 1999 ppm	on customer request		83 18 676
Dräger Pac 7000 H ₂ S	(EU)	0 to 100 ppm	10 ppm	20 ppm	83 18 674
Dräger Pac 7000 H ₂ S	(USA)	0 to 100 ppm	on customer request		83 18 971
Dräger Pac 7000 H ₂ S		0 to 100 ppm	on customer request		83 18 677
Dräger Pac 7000 O ₂	(EU)	0 to 25 Vol.-%	19 Vol.-%	23 Vol.-%	83 18 675
Dräger Pac 7000 O ₂	(USA)	0 to 25 Vol.-%	on customer request		83 18 972
Dräger Pac 7000 O ₂		0 to 25 Vol.-%	on customer request		83 18 678
Dräger Pac 7000 CO ₂		0 to 5 Vol.-%	on customer request		83 18 975
Dräger Pac 7000 Cl ₂		0 to 20 ppm	on customer request		83 18 978
Dräger Pac 7000 HCN		0 to 50 ppm	on customer request		83 18 973
Dräger Pac 7000 NH ₃		0 to 300 ppm	on customer request		83 18 979
Dräger Pac 7000 NO ₂		0 to 50 ppm	on customer request		83 18 977
Dräger Pac 7000 PH ₃		0 to 20 ppm	on customer request		83 18 974
Dräger Pac 7000 SO ₂		0 to 100 ppm	on customer request		83 18 976

Certificates

If a Certificate is required for an Instrument, then please use the following Order Numbers when ordering

Manufacturer's Certificate	83 18 189
Calibration Certificate	83 18 350

Dräger Pac 7000

Calibration Accessories	
Calibration adapter Dräger Pac 1000 - 7000	83 18 588
Dräger Pac 1000 – 7000 Module (with 4 cradles)	83 18 589
Dräger Bump Test Station Dräger Pac 1000 – 7000	83 17 410
Without gas cylinder	
Dräger Bump Test Station Dräger Pac 1000 - 7000 complete	83 18 586
With one test gas cylinder 58 L (please mention in the order):	
- 50 ppm NH ₃ /N ₂	68 11 352
- 50 ppm CO/air	68 11 117
- 2.5 Vol.-% CO ₂ /air	68 10 391
- 20 ppm H ₂ S/ air	68 10 393
- 25 ppm H ₂ S/N ₂	45 02 155
- 100 ppm H ₂ S/N ₂	36 02 359
- 18 Vol.-% O ₂ /N ₂	68 11 250
- 10 ppm HCN/N ₂	68 10 642
- 5 ppm Cl ₂ /N ₂	36 02 322
- 10 ppm NO ₂ /N ₂	68 10 646
- 0.5 ppm PH ₃ /N ₂	i68 10 647
- 10 ppm SO ₂ /N ₂	68 10 645
Additional information regarding test gases can be found on pages 77-80	
Communication Accessories	
Dräger GasVision	83 14 034
Software License	83 14 099
for use on an additional PC	
Dräger CC-Vision	64 08 515
Communication Module for Dräger Pac 1000 - 7000	83 18 587
Complete with USB cable and Dräger PacVision Software	
Bags and Cases	
Leather case	45 43 822
Other Accessories	
Lithium battery	45 43 808
Water and dust filter (4 pieces)	45 43 836
Spare Part Set	45 43 861
Clip with screw, housing screws (4 pieces), hex wrench	
Spare Parts	
If you need spare Parts, please order the following Spare Parts List:	
Dräger Pac 1000 - 7000	E 4623.600

Dräger Pac Ex 2

Two instruments in one: With the hand-held Dräger Pac Ex 2 Dräger Safety has developed a powerful and flexible monitoring and warning instrument used for personal monitoring of Ex hazards and lack or excess of oxygen. By means of a simple plug-and-play function the Ex version can be coupled to an Ex and oxygen monitoring instrument.



Dräger Pac Ex 2:
Ex- and oxygen hazards in hand.

Continuous and reliable

The concentrations of explosive gases or vapours and oxygen are continuously monitored at any time independently from each other.

Flexible and independent

The modular construction of the instrument facilitates an easy upgrade of an Ex only monitor to an Ex/O₂ monitor. A flexible energy supply through rechargeable NiMH batteries (short charging time) or traditional batteries is ensured.

Comfortable to operate

The functional three button operation guarantees a simple adaptation to

respective monitoring requirements. The password protected menu and integrated databank completes the profile of the Dräger Pac Ex 2. The instrument can be calibrated and individually configured by using a PC with CC-Vision software and E-Cal System installed.

Economic to run

The Dräger Pac Ex 2 is impressive since it has an extra long operational time and is economic due to the long life of the sensors.

TECHNICAL DATA

Dimensions (H x W x D)	approx. 125 x 64 x 35 mm top of instrument approx. 82 mm	
Weight	approx. 360 g	
Ambient conditions	Temperature	– 25 to 55 °C
	Pressure	700 to 1300 hPa
	Humidity	10 to 90 % r.h.
Type of protection	IP 64	
Data logger adjustable by means of Dräger Gas Vision software		
Approvals	ATEX	II 2G EEx ia d IIC T4, –25 ≤ Ta ≤ +55 °C, I M2 EEx ia d I Technical Monitoring report BAM 04 ATEX 0001X, EN 61779-1 and -4 (0 % LEL - 100 % LEL) for monitoring of aliphatic Hydrocarbons from Methane to Nonane
	UL	Class I, Div 1, Groups A, B, C, D Temp. code T4
	CE mark	Electro-magnetic compatibility (Directive 89/336/EEC)
	Shipping	Steering Wheel Identification

Dräger Pac Ex 2

ORDER INFORMATION

Dräger Pac Ex 2 Ex-O ₂ -Version	83 16 107
Display language in German, English, French and Spanish	
Cat Ex Sensor 2	83 16 109
Special adjustment for Ex Sensor	
DrägerSensor XS-2 O ₂	68 10 375
Sensors	
DrägerSensor XS R O ₂ LS	68 10 262
DrägerSensor XS O ₂	68 09 130
Dräger Pac Ex 2 Ex-Version	83 16 108
Display language German English French and Spanish	
Cat Ex Sensor 2	83 16 109
Special adjustment for Ex Sensor	
Power packs	
Rechargeable NiMH battery	83 16 112
Alkaline Battery Pack (without batteries)	83 16 111
Alkaline batteries (4 pc. „AAA“ cells)	83 16 329
Charger	
Charging module with RS 232 interface (cascadable)	83 19 091
Charging cradle with interface to charge instrument, also separate charging of batteries and connection for data transfer to PC	83 18 097
Single charger 100 – 240 V AC for 83 18 097	83 16 990
Single charger for max. 2 charger module, to be used with charging cradle 83 18 091	83 15 635
Single charger for max. 6 charger module, to be used with charging cradle 83 18 091	83 16 994
Single charger for max. 12 charger module, to be used with charging cradle 83 18 091	83 15 805
Car charger adapter to be used with charging cradle with interface 83 18 091	83 12 645
Car charger adapter to be used with charging cradle with interface 83 18 097	83 17 240
Certificates	
Manufacturer's Certificate	83 18 189
Calibration Certificate (ordering with instrument)	83 18 350
Pump accessories	
Adaptable, automatic pump	83 16 350
You can see further information on probes on pages 77-80	
Calibration accessories	
Calibration adapter Dräger Pac Ex 2	83 16 300
Vapour calibration adapter Dräger Pac Ex 2	AG 02 547
Dräger Pac Ex 2 E-Cal Module	83 16 539
Dräger Pac Ex 2 single charger for E-Cal	83 16 990
You can see further information on test gases on pages 77-80 and on Dräger E-Cal stations on page 74	
Communications accessories	
Dräger GasVision	83 14 034
Software Licence	83 14 099
This licence authorises the use of Dräger Gas Vision software on an additional PC	
Dräger CC-Vision	64 08 515
RS 232 cable 9-25	64 08 257
For Dräger Pac Ex 2/Dräger X-am 3000 incl. adapter 25 to 9-pins	

Dräger Pac Ex 2

Pouch and case

Rubber protection cover	83 16 116
Leather carrying pouch	83 16 117

Dräger Pac III

The Dräger Pac III is a product family of single gas monitoring instruments for continuous monitoring of different toxic gases and oxygen. The intelligent Dräger PAC III concept is a flexible monitoring system that allows for the variable use of more than 35 different types of sensors.



ST-111-2004

Dräger Pac III:
Intelligent, variable single
gas monitoring instrument.

2 Versions for the greatest flexibility

Functional and reliable. The Dräger Pac III S is the standard model for the monitoring of toxic gases or oxygen for which many settings are possible. For the standard and advanced Model Dräger Pac III E there are more than 35 different electro-chemical Dräger sensors available in the field, which can be inserted into the instrument quickly and simply as required. The Dräger Pac III E also offers an integrated data logger for 8,000 measurements and evaluation in accordance with TRGS. Documentation of data is produced using Dräger Gas Vision software on a PC.

Designed for use in rough conditions

Easy to handle and robust, the almost maintenance-free Dräger Pac III has a housing which prevents the ingress of sparks.

Easy to operate

The menu controlled operator guide guarantees that the instrument is used correctly. The Dräger Pac III can be equipped with various supply units, is individually configurable and, with its many accessories, is equipped to carry out any monitoring task.

TECHNICAL DATA

Dimensions (W x H x D)	67 x 116 x 32 mm	
Weight	200g	
Ambient conditions	-20 to 55 °C	
Battery life (typically at 25 °C)	Alkaline:	600 hours
	NiMHy:	200 hours
Audible alarm	> 90 dB A at a distance of 30cm	
Optical alarm	Bright LEDs	
Alarm signal	A1, A2, TWA, STEL, low battery capacity (Expositions alarm as per TRGS 402 / ACGIH)	
Type of protection	IP 54	
Data logger capacity (Dräger Pac III E)	>125 hours (at one minute interval concentrations)	
Approvals	ATEX	II 1 G EEx ia II C T4
	UL	Class I, Div. 1, Group A, B, C, D
		Class II, Div. 1, Group E, F, G
	CSA	Class I, Div. 1, Group A, B, C, D

Dräger Pac III

ORDER INFORMATION

Dräger Pac III S (Standard)	83 13 650
Basic instrument with alarms as per TRGS without sensors	
Supply unit, language version, suitable for all sensors	
Dräger Pac III (extended)	83 13 653
with Data Logger and alarm as per TRGS without sensors, supply unit, language version suitable for all sensors	
The listed Dräger Pac III instruments are only complete if the sensor and the power supply unit are selected	
Alkaline / Lithium power supply unit	45 30 350
without 9 volt batteries	
Re-chargeable NiMH power unit	45 30 348
9 volt battery	83 13 656
9 volt Alkaline battery	83 12 196
9 volt Lithium battery	64 08 026
Sensors	
You can see a list of all sensors for Dräger Pac III instruments on page 69	
Charging accessories	
Charging module/Interface	83 14 035
For two Dräger Pac III units and data respectively downloading for one Dräger Pac III	
Power supply (worldwide)	83 15 805
for up to 16 charging modules	
Charging module/Interface for 1 Dräger Pac III	45 30 052
Wall mount	45 30 261
for single charging module 45 30 052	
Single charger 100-240 VAC (worldwide compatible)	83 15 635
Car charging adapter for use with 45 30 052	45 30 057
Certificates	
Manufacturer's Certificate	83 18 189
Calibration Certificate (to be ordered with instrument)	83 18 350
Calibration accessories	
Dräger Pac III E-Cal Module	83 16 554
Dräger Pac III single charger for E-Cal	83 15 635
Calibration adapter Dräger Pac Ex/ Dräger Pac III	68 06 291
You can see further information on test gases on pages 77-80 and on Dräger E-Cal stations on page 74	
Communication accessories	
Dräger GasVision	83 14 034
Software-Licence, for use on an additional PC	83 14 099
Dräger CC-Vision	64 08 515
RS 232 cable 9-25 for Dräger Pac III, incl. adapter from 25 to 9-pins	64 08 257
Bags and cases	
Carrying clip	45 30 040
Rotates position on the unit	
Leather bag	83 14 178
for one Dräger Pac III, incl. shoulder strap	
Leather bag (robust) Pac III	64 08 001
Rubber boot	83 17 528

Dräger Pac III

Additional accessories

Colour identification H ₂ S	68 08 814
Colour identification CO	68 08 824
Colour identification O ₂	68 08 834
Sensor cap incl. seal	45 30 048
HF / HCl sensor cap	68 09 541
Hexagon socket wrench (with handle)	45 30 050
Accessories-Set Odorant measurement	83 15 827
For the measurement of gas odorants in natural gas pipelines	

Spare parts

If you need spare parts, please order the following spare parts list:

Dräger Pac III	E4624.100
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Dräger X-am 1100

The Dräger X-am 1100 personal air monitor is a low cost solution for industrial shut-downs from Dräger Safety. The Dräger X-am 1100 is a maintenance-free 4-gas detector for the measurement of explosive gases and vapours, as well as O₂, CO and H₂S, and is designed for 120 days of use. With its convenient mobile phone dimensions, low weight and ease of operation, it is perfectly suited to personal protection needs.

Buy rather than rent

Its low price tag makes the maintenance-free Dräger X-am 1100 a convincing alternative to a rental device.

An ergonomic instrument the size of a mobile phone

The instrument's low weight and mobile phone size – unique in today's market – guarantee users a high level of comfort and convenience. By design, the instrument can be used intuitively thanks to the practical two-key control panel and straightforward menu guidance system.

Vapour-sensitive Ex measurement

For improved safety when facing unknown hazards, the catalytic Ex sensor, calibrated to methane, not only responds quickly to explosive gases, but also offers a high level of sensitivity to combustible organic vapours, thus providing dependable warnings in the event of explosive hazards.

Robust and watertight

The Dräger X-am 1100 is tough: water- and dust-resistant to IP 67, the shockproof instrument remains fully functional and ready for use even after being dropped in water.

Gas inlets on two sides

Twice as reliable: the functional design ensures that gas can enter the instrument from the top and the front.

Intelligent data management

Nothing escapes the Dräger X-am 1100: the instrument is equipped as standard with an event logger, which records alarms, errors and results of function tests.

A range of alarm functions

In alarm situations, the Dräger X-am 1100 provides three different types of warning: an audible multi-tone alarm, a visual 180-degree alarm plus a vibration alarm.

ST-1772-2005



Dräger X-am 1100:
4-gas monitoring instrument,
ideal for industrial shut-down.

Dräger X-am 1100

TECHNICAL DATA

Dimensions	47 x 129 x 31 mm (W x H x D)	
Weight	approx. 220 g	
Ambient conditions	Temperature	-20 to +50 °C
	Pressure	700 to 1300 mbar
	Humidity	10 to 95% r.h
Sensor	Monitoring Range	Response time T50 [sec.]
Ex	0-100 %LEL or 0-5 Vol.-%	8
O ₂	0-25 Vol.-%	6
CO	0-2000 ppm	6
H ₂ S	0-200 ppm	6
IP Protection Class	Instrument and sensor block IP 67	
Alarm	Visual	180°
	Audible	Multi-tone >90 dB in 30 cm
	Vibration	
Operating times	Alkaline	> 12 h
	T4 battery pack	> 12 h
	Charging time	< 4h
	Event logger	65.000 Events
Approvals	ATEX	II 2G EEx ia d IIC T4/T3 I M2 EEx ia d I
	UL	Class I Div. 1 Group A, B, C, D T.-Code T4/T3
	CSA	Class I Div. 1 Group A, B, C, D T.-Code T4/T3
	IECEX	Ex ia d I/IIC T4/T3
	CE mark	Electro-magnetic compatibility (Directive 89/336/EEC)

ORDER INFORMATION

Dräger X-am 1100

83 18 710

Maintenance-free 120 days 4-gas monitoring instrument incl. alarm thresholds to meet standards in various countries.

Incl. Alkaline power supply with AA-batteries (2 pcs.), Sensors (Ex, O₂, CO, H₂S), Event logger, Manufacturer's Certificate, Support CD

For other accessories see Dräger X-am 2000

Dräger X-am 1700

The Dräger X-am 1700 is one of the new generation of 4-gas monitoring instruments. The guaranteed repair free instrument for monitoring explosive gases and vapours such as O₂, CO and H₂S is designed for an operational period of two years. Its functional format and light weight makes it the perfect companion in personal air monitoring. Equipped with reliable monitoring technology the Dräger X-am 1700 is the ideal solution in the low cost range.

An ergonomic instrument the size of a mobile phone

The instrument's low weight and mobile phone size – unique in today's market – guarantee users a high level of comfort and convenience. By design, the instrument can be used intuitively thanks to the practical two button control panel and straightforward menu guidance system.

Robust and watertight

The Dräger X-am 1700 is tough: water- and dust resistant to IP 67, the instrument remains fully functional and ready for use even after being dropped in water.

Flexible energy supply

Alkaline batteries or rechargeable T4 batteries are available.

Intelligent data management

An Event logger is integrated into the instrument. Data is transmitted to a PC using an IR interface and is evaluated by means of the Dräger CC-Vision software.

A range of alarm functions

In alarm situations, the Dräger X-am 1700 provides three different types of warning: an audible multi-tone alarm, a visual 180-degree alarm plus a vibration alarm.



ST-1774/2005

Dräger X-am 1700:
4-gas monitoring instrument
for personal protection with
two year life span.

Vapour-sensitive Ex measurement

For improved safety when facing unknown hazards: the catalytic Ex sensor, calibrated to methane, not only responds quickly to explosive gases, but also offers a high level of sensitivity to combustible organic vapours, thus providing dependable warnings in the event of explosive hazards.

TECHNICAL DATA

Dimensions	47 x 129 x 31 mm (W x H x D)	
Weight	approx. 220 g	
Ambient conditions	Temperature	-20 to +50 °C
	Pressure	700 to 1300 mbar
	Humidity	10 to 95% r.h.
Sensor	Monitoring Range	Response time T50 [sec.]
Ex	0-100 %LEL or 0-5 Vol.-%	8
O ₂	0-25 Vol.-%	6
CO	0-2000 ppm	6
H ₂ S	0-200 ppm	6
IP protection class	Instrument and sensor block IP 67	
Alarms	Visual	180°
	Audible	Multi-tone >90 dB in 30 cm
	Vibration	
Operational time	Alkaline	> 12 h
	T4 battery pack	> 12 h
Charging time	< 4h	

Dräger X-am 1700

Event logger	65,000 events	
Approvals	ATEX	II 2G EEx ia d IIC T4/T3 I M2 EEx ia d I
	UL	Class I Div. 1 Group A, B, C, D T.-Code T4/T3
	CSA	Class I Div. 1 Group A, B, C, D T.-Code T4/T3
	IECEX	Ex ia d I/IIC T4/T3
	CE mark	electro-magnetic compatibility (Directive 89/336/EEC)

ORDER INFORMATION

Dräger X-am 1700	83 18 730
Repair free 730 days 4-gas monitoring instrument, incl. adjustable alarm thresholds to standards of different countries	
Incl. Alkaline power supply with AA-batteries (2 pcs.), Sensors (Ex, O ₂ , CO, H ₂ S), Event logger, Manufacturer's Certificate, Support CD	
For other accessories see Dräger X-am 2000	

Dräger X-am 2000

The Dräger X-am 2000 is one of a new generation of gas detectors which have been specially designed for personal monitoring use. This 1 to 4 gas detector reliably measures combustible gases and vapours as well as O₂, CO and H₂O. Its functional handy format and light weight make it the ideal companion in the workplace. Reliable monitoring technology, long-life sensors and easy operation guarantee maximum safety with extremely low running costs.



ST7461-2005

Dräger X-am 2000:
Robust 1 to 4 gas detector
for personal monitoring.

Ergonomic and functional

Its easy to use format, two button control panel and a simple menu list guarantees the user a high degree of comfort when carrying the instrument as well as intuitive use. The functional design ensures that gas can enter from the top and side in order to minimise the danger of the instrument being accidentally covered over.

Long-life electro-chemical Dräger sensors represent innovative technology of the

highest level and have an expected operational life of five years. The Dräger X-am 2000 is equipped with the latest high performance Dräger sensors from the miniaturised XXS-Generation.

Vapour-sensitive Ex-monitoring

The catalytic exhaust sensor responds rapidly to explosive gases. Thanks to its high sensitivity to combustible organic vapours it reliably warns of explosive hazards.

Dräger X-am 2000

Robust and watertight

The Dräger X-am 2000 is water and dust resistant to IP 67 whilst shock-proof sensors offer additional safety in the event of impact and vibration.

Range of alarm functions

The instrument provides three warnings, an audible alarm, visual alarm (180 degree) together with a vibration alarm.

Flexible power supply

Can be used with either NiMH- or Alkaline- batteries or a rechargeable T4 battery. Charging can take place as required in a workshop or in a vehicle.

Intelligent data management

An event logger is an integral part of the instrument. Data, transmitted to a PC via an IR interface, can be evaluated using Dräger Gas-Vision software.

Function tests and calibrations

The automatic testing and calibration station Dräger E-Cal and the Dräger Bump Test station are ideal supplements to the Dräger X-am 2000 instrument which minimise time and expenditure.

User registration in seconds

The optional registration set, when used in conjunction with the Dräger CC-Vision software, allows an individualised issue of instruments and a quick check of completeness upon their return.

TECHNICAL DATA

Dimensions (W x H x D)		approx. 90 x 140 x 55 mm
Weight		approx. 220 g
Ambient conditions	Temperature	- 20 to + 55 °C, short-term - 40 to + 55 °C
	Pressure	700 to 1300 hPa
	Humidity	10 to 95 % r.h.
Type of protection		IP 67
Typical operating times	Alkaline	> 24 hours (diffusion operation)
		> 12 hours (pump operation)
	NiMH	> 18 hours (diffusion operation)
		> 12 hours (pump operation)
Audible alarm		> 90 dB (A) at a distance of 30 cm
Charging time		< 4 hours
Pump operation		maximum hose length: 20 m
Approvals	ATEX	II 2G EEx ia d IIC T4; - 25 ≤ Ta ≤ + 55 °C (NiMH)
		- 25 ≤ Ta ≤ + 50 °C (Alkaline)
		I M2 EEx ia d I
	UL	Class I, Div 1, Group A, B, C, D; Temp Code T4
	CSA	Class I, Div 1, Group A, B, C, D; Temp Code T4
	IECEX	Ex ia d I/IIC T4; - 25 ≤ Ta ≤ + 55 °C (NiMH)
	- 25 ≤ Ta ≤ + 50 °C (Alkaline)	
CE mark		Electro-magnetic compatible (Directive 89/336/EEC)

Dräger X-am 2000

ORDER INFORMATION

Dräger X-am 2000

Unrestricted 1-4 gas monitoring instrument with replaceable sensors.

incl. adjustable alarm threshold to various country standards. Alkaline power supply with AA-batteries (2 pcs.), Sensors (depending on instrument variant), Event and data logger, Manufacturer's Certificate, Support CD

Dräger X-am 2000 Ex	83 18 750
Dräger X-am 2000 Ex, O ₂	83 18 770
Dräger X-am 2000 Ex, H ₂ S	83 18 780
Dräger X-am 2000 Ex, CO	83 18 790
Dräger X-am 2000 Ex, O ₂ , CO	83 18 880
Dräger X-am 2000 Ex, O ₂ , H ₂ S	83 18 890
Dräger X-am 2000 Ex, O ₂ , CO, H ₂ S	83 18 910

Dräger X-am 2000 Special

Unrestricted 1-4 gas monitoring equipment with replaceable sensors and selectable calibrations, Standard calibration of exhaust sensors; Methane incl. adjustable alarm threshold to various country standards. Alkaline power supply with AA-batteries (2 pcs.), Sensors (depending on instrument variant), Event- and data logger, Calibration for exhaust sensor, Manufacturer's and Calibration Certificate, Support CD

Dräger X-am 2000 Ex	83 18 751
Dräger X-am 2000 Ex, O ₂	83 18 771
Dräger X-am 2000 CO, H ₂ S	83 18 696
Dräger X-am 2000 O ₂ , CO	83 18 697
Dräger X-am 2000 O ₂ , H ₂ S	83 18 698
Dräger X-am 2000 Ex, H ₂ S	83 18 781
Dräger X-am 2000 Ex, CO	83 18 791
Dräger X-am 2000 Ex, O ₂ , CO	83 18 881
Dräger X-am 2000 Ex, O ₂ , H ₂ S	83 18 891
Dräger X-am 2000 Ex, O ₂ , CO, H ₂ S	83 18 911

Additional power pack units

Battery- and charging technology set	83 18 785
Consisting of: NiMH power supply unit T4, charger module, Power supply (worldwide) for 1 charging module	
NiMH power supply unit T4	83 18 704
Alkaline power supply unit T3/T4 (without Alkaline batteries)	83 18 703
Alkaline batteries T4 (2 pcs.) for Alkaline power supply 83 18 703	83 18 708
Set Battery Holder with batteries	83 18 789
NiMH batteries T3 for power supply unit	83 19 426
Externally chargeable (2 required)	

Charger units

Charger module	83 18 639
Power supply with flexible cable (worldwide) for max. 20 charger modules	83 15 805
Power supply (worldwide) for max. 5 charger module	83 16 994
Power supply (worldwide) for max. 2 charger module	83 15 635
Vehicle connection cable 12V / 24V	83 17 754
Vehicle holder for 1 charger module	83 18 779

Spare sensors

Cat Ex 125	0-100%LEL	68 11 050
XXS Dräger Sensor O ₂	0-25 Vol.-%	68 10 881
XXS Dräger Sensor CO	0-2000 ppm	68 10 882
XXS Dräger Sensor H ₂ S	0-200 ppm	68 10 883

Dräger X-am 2000

Additional Options	
Support CD	83 18 705
Pump accessories	
External pump	83 19 400
Hand pump adapter	83 19 195
You can see further information on sensors on page 69 and on hoses on pages 77-80	
Calibration accessories	
Calibration cradle Dräger X-am 1/2/5000	83 18 752
Dräger X-am 1/2/5000 E-Cal Module	83 18 754
Dräger X-am 1/2/5000 power supply for E-Cal	83 15 635
Dräger Bump Test Station Dräger X-am 1/2/5000 without gas cylinder	83 19 131
Dräger Bump Test Station Dräger X-am 1/2/5000 complete	83 19 130
Optional with a test gas cylinder 58 L (state with order):	
15 ppm H ₂ S, 50 ppm CO, 2.5 Vol.-% CH ₄ , 18 Vol.-% O ₂	68 11 130
0.9 Vol.-% C ₃ H ₈ /Air	68 11 118
You can see further information on test gases on pages 77-80 and on Dräger E-Cal stations on page 74	
Communications accessories	
Dräger GasVision	83 14 034
Software Licence	83 14 099
This licence authorises the use of Dräger Gas Vision software on another PC	
Dräger CC-Vision	64 08 515
USB DIRA with USB cable	83 17 409
For Dräger MiniWarn, Dräger-X-am 1/2/5000. Dräger X-am 7000 and Dräger Interlock; communications adapter Infrared to USB	
PC Communications set 1 Dräger X-am 1/2/5000 with USB connection, Dräger CC-Vision	83 18 761
PC communication set 2 Dräger X-am 1/2/5000 with USB communication set, Dräger CC-Vision and barcode reader	83 18 762
Pouches and cases	
Leather pouch	83 18 755

Dräger X-am 3000

Dräger X-am 3000 is an innovative 2 to 4 gas warning device. This small and lightweight instrument reliably monitors H₂S, CO, O₂ and combustible gases in ambient air. Its compact design combined with state of the art electronics ensures that it is ideally suited for gas detection requirements in all applications and industries.

Rugged and durable

Protection against dust and water is standard and ensures reliable operation in all environments. The optional rubber-boot gives additional protection for the Dräger X-am 3000 from bumps and hits.

Easy to use

A large display enables the easy identification of the measured values. The simple three button operation and an easy to use menu ensure intuitive operation.

The visible menu makes selecting and performing other functions quick and simple. After switching on the Dräger X-am 3000, it performs a self-test.

Intelligent sensors

The precalibrated electro-chemical sensors and the catalytic sensor are automatically recognised and provide precise and reliable measuring results. All Dräger sensors show a fast and accurate response to changing gas concentrations.

Distinctive alarms

In addition to a very loud audible alarm and a visual alarm, a vibrating alarm is integrated in the instrument.

The functionality and the battery status are monitored continuously and will, if neces-

sary, generate an alarm. TWA and STEL are also evaluated.

Different alarm cadences indicate pre and main alarm conditions.

Optional built-in pump

An optional internal pump which can be used together with 20 m / 66 ft tubing is ideal for confined space applications. A convenient pump adapter makes it easy to switch between pump and diffusion mode.

Meet individual power requirements

NiMH and alkaline batteries are available and can be interchanged. There are different charging options, including a car charger, to meet your specific requirements.

Helpful software functions

By using a preset mixture of gases the instrument can be calibrated with only one press of the button, whilst peak concentrations can be called up at any time.

Data management

The Dräger X-am 3000 can be fitted with a data logger which displays gas concentrations and alarms over a period of 60 hours. Using the Dräger GasVision software values can be evaluated on a PC.



ST-129-2004

Dräger X-am 3000:
Built for the industrial environment.

Dräger X-am 3000

TECHNICAL DATA

Dimensions (W x H x D)	approx. 90 x 140 x 55 mm	
Weight	approx. 550 g	
Ambient conditions	Temperature	- 20 to + 55 °C, short term- 40 to + 55 °C
	Pressure	700 to 1300 hPa
	Humidity	10 to 95 % r.h.
Type of protection	IP 65	
Typical operating times	Alkaline	> 24 hours (diffusion operation)
		> 12 hours (pump operation)
	NiMH	> 18 hours (diffusion operation)
		> 12 hours (pump operation)
Audible alarm	> 90 dB (A) at a distance of 30 cm.	
Charging time	< 4 hours	
Pump operation	maximum hose length: 20 m	
Approvals	ATEX	II 2G EEx ia d IIC T4; - 25 ≤ Ta ≤ + 55 °C (NiMH)
		- 25 ≤ Ta ≤ + 50 °C (Alkaline)
		I M2 EEx ia d I
	UL	Class I, Div 1, Group A, B, C, D; Temp Code T4
	CSA	Class I, Div 1, Group A, B, C, D; Temp Code T4
	IECEX	Ex ia d I/IIC T4; - 25 ≤ Ta ≤ + 55 °C (NiMH)
		- 25 ≤ Ta ≤ + 50 °C (Alkaline)
	CE mark	Electromagnetic compatible (Directive 89/336/EEC)

ORDER INFORMATION

Dräger X-am 3000 D (Diffusion)	83 17 740
Ex- and O ₂ -Dräger Sensor	
Calibration adapter	
Data logger	83 17 717
Dräger X-am 3000 P (Pump)	83 17 730
Ex- and O ₂ -Dräger Sensor	
Calibration adapter	
Pump and pump adapter	
Data logger	83 17 717
Power supply pack	
NiMH Power supply pack CE/UL	83 17 709
Alkaline Power supply unit (without Alkaline batteries)	83 17 716
Battery LR6	18 90 433
Charging accessories	
Charging cradle with power supply UK	83 17 761
Charging cradle with power supply EUR	83 17 763
Charging cradle with power supply AUS	83 17 752
Charging cradle with power supply JAPAN	83 17 850
Vehicle connection cable 12V	83 17 754
Dräger Sensors	
Catalytic Ex Sensor 2 (0-100% UEG)	83 16 109
Dräger micro Pac O ₂ (0-25 Vol.-%)	68 10 034
Dräger micro Pac CO (0-999 ppm)	68 10 030

Dräger X-am 3000

Dräger microPac H ₂ S (0-100 ppm)	68 10 032
Special calibration for catalytic Ex sensor and gas	on request
Other sensors to be found on page 69	
Certificates	
Manufacturer's Certificate	83 18 189
Calibration Certificate (order with instrument)	83 18 350
Additional Options	
Upgrade data logger (via Dräger Service)	83 18 236
Accessories Dräger X-am 3000	
Spare language labels (German, English, French, Spanish, Chinese)	83 17 693
Spare language label – other languages	83 18 204
Pump accessories	
Pump adapter	83 17 328
You can see further information on sensors on page 69 and on hoses on pages 77-80	
Calibration accessories	
Sensor filter (4 pcs.) and seal (1 pc.) Dräger X-am 3000	83 17 611
Calibration adapter Dräger X-am 3000	83 17 336
Dräger X-am 3000 E-Cal Module	83 17 719
Dräger X-am 3000 power supply for E-Cal	83 16 990
Dräger Bump Test Station Dräger X-am 3000 without gas cylinder	83 17 425
Dräger Bump Test Station Dräger X-am 3000 complete with mixed gas test gas cylinder 58 L - 15 ppm H ₂ S, 50 ppm CO, 2,5 Vol.-% CH ₄ , 18 Vol.-% O ₂	83 19 071 68 11 130
You can see further information on test gases on pages 77-80 and on Dräger E-Cal stations on page 74	
Communication accessories	
Dräger GasVision	83 14 034
Software Licence	83 14 099
This licence authorises the use of Dräger GasVision software on another PC	
Dräger CC-Vision	64 08 515
RS 232 cable 9-25	64 08 257
For Dräger Pac Ex 2/Dräger X-am 3000	
Pouches and cases	
Nylon carrying case	83 17 720
Leather carrying case de luxe	83 17 726
Dräger X-am 3000 case	33 10 847
Plastic, black (without contents)	
Rubber protective cover, black	83 17 727
Rubber protective cover, blue	83 18 626
Rubber protective cover, red	83 18 627
Minimum amount 200	

Dräger MiniWarn

The Dräger MiniWarn is a small, light and ergonomic multigas monitoring instrument for continuous and simultaneous monitoring of up to four gases in the ambient air and is tailor-made for personal monitoring. The various sensors and variable software permit flexible adaptation to different monitoring tasks. The instrument may be obtained with an integrated data logger.

ST-4709-2005



Dräger MiniWarn:

Compact 1 to 4 gas monitoring instrument for personal air monitoring.

Large choice of sensors

The four monitoring channels of the Dräger MiniWarn can be equipped with a catalytic and maximum of three electro-chemical sensors. Available are more than 24 electro-chemical and two catalytic sensors to measure combustible gases. The sensors are easily fitted and are ready for use immediately after the warm-up time.

User friendly characteristics

Large, lightweight, ergonomically designed and high functionality make the Dräger MiniWarn the ideal companion in the field. A simple attachable external pump draws the gases into the instrument.

Easy to handle

The three keys ensure easy operation whilst the enlarged scratch resistant contrast display ensures that the values can be read very clearly. The Dräger MiniWarn can be operated with standard or rechargeable batteries.

Optional data logger

An infrared interface allows the transfer of data to a PC such that 63 hours of data can be read from the data logger (in MiniWarn E) using Dräger GasVision software.

TECHNICAL DATA

Type	Multi-gas monitoring instrument with up to 4 monitoring channels 3 electro-chemical (for toxic gases and Oxygen) and 1 catalytic sensor (for combustible gases and vapours)	
Dimensions (W x H x D)	approx. 78 x 143 x 58 mm	
Weight	Basic instrument	approx. 450 g
Ambient conditions during operation	Temperature	– 20 to + 40 °C, short term – 40 to + 55 °C
	Pressure	700 to 1300 hPa
	Humidity	10 to 95 % r.h.
Type of Protection	IP 54	
Typical operating times	NiMH T4	> 13 hours
	NiCd T6	> 8 hours
	NiCd T4	> 10 hours
	Alkaline T4	> 12 hours
	Alkaline T6	> 10 hours
Audible alarm	> = 85 dB (A) at a distance of 30 cm	
Charging time	3.5 to 7 hours, depending on the type of battery	
Pump operation	maximum hose length 10 m	

Dräger MiniWarn

Approvals	ATEX	II 2G EEx ia d IIC T6 / T4 – 20 ≤ Ta ≤ + 40 /+ 55 °C I M2 EEx ia d I EG-Sample Test Certificate DMT 98 ATEX E 019 X
	MED	Marine Equipment Directive 96/98/EG
	UL	I, Div 1, Group A, B, C, D; T6 / T4 – 20 ≤ Ta ≤ + 40 /+ 55 °C
	CSA	I, Div 1, Group A, B, C, D; T6 / T4 – 20 ≤ Ta ≤ + 40 /+ 55 °C
	CE mark	Electro-magnetic compatibility (Directive 89/336/EEC)

ORDER INFORMATION

Dräger MiniWarn B, basic design with calibration adapter	64 08 000
Dräger MiniWarn E, Basic instrument with calibration adapter and data logger	64 08 080
A ready-to-use instrument contains a power supply pack and 4 sensors	
Power supply units	
NiMH power supply unit T4	83 17 501
NiCd power supply unit T4	83 17 502
NiCd power supply unit T6	83 17 503
Alkaline power supply unit T6 (without Alkaline batteries)	64 08 116
Alkaline-battery Set (4 pcs.) for 64 08 116	64 08 361
Charging accessories	
Charging clip	64 08 122
Charger 100-240 VAC	83 16 990
for use with charging clip or a charger module (worldwide) Charging module, also suitable for vehicles	64 08 125
Smart charger module for external charging of power pack	64 08 155
Multiple charging power supply with flexible cable (worldwide) for up to 12 MiniWarn charging modules	83 15 805
Vehicle mounting kit for 1 charging module 64 08 125	64 08 124
Vehicle charging adapter 12/24 V, for charging module 64 08 125	83 12 645
Pump accessories	
Pump adapter	83 17 639
Externally attachable pump without hose	64 08 527
Externally attachable pump incl. 5m hose	64 08 112
Pouch and case	
Leather instrument case	64 08 134
Leather pouch for pump	64 08 355
Black rubber boot	83 17 557
Carrying straps for rubber cover	83 16 451
The list for all sensors for the Dräger MiniWarn can be seen on page 69	

Dräger X-am 7000

Dräger X-am 7000 is the innovative solution for simultaneous and continuous detection of up to five gases. A combination of more than 25 sensors allows flexible solutions to individual detection tasks. The Dräger X-am 7000 can be equipped with three electro-chemical and two catalytic bead, infrared or photoionisation sensors. It is the ideal companion for detecting toxic as well as combustible gases and vapours in the ambient air.



ST-7064-2005

Dräger X-am 7000:
Modular, rugged and waterproof.

Flexibility through sensor variety

The extensive portfolio of over 25 different Dräger sensors facilitate the detection of over 100 gases and vapours. It is also possible with Ex-sensors to change the gas to be monitored or the detection range. The flexible adjustment to changing applications is therefore possible. Dräger sensors respond quickly, have a low level of cross sensitivity, a high degree of accuracy and long operational life.

Intelligent smart sensor systems technology

Apart from electro-chemical sensors catalytic and infrared sensors are quickly recognised by the instrument. Since the sensors are pre-calibrated reconfiguration of the Dräger X-am 7000 is done by simply changing a sensor, i.e. no additional service or maintenance is necessary.

Intuitive software functions

The software menu of the Dräger X-am 7000 is built to customer requirements and is easy to operate. It offers many individual formats with fade out and fade in of menu points and personal related configuration of a quick menu. It is also possible to call up maximum concentrations as well as MAK/TWA and STEL values very quickly.

Leakage search

A new swan neck probe enables leakages to be traced more easily, e.g. at flanges, valves and dampers. When in the tracking mode, the instrument emits a different sound sequence depending on the gas concentration detected.

Robust and waterproof

Apart from being able to withstand dust and water spray the Dräger X-am 7000 can also be submersed in water without any damage being incurred. A specially designed rubber case is optional which protects the instrument from damage when dropped from a height of 1.5 m. Shock sensitive sensors guarantee accurate detection results.

Built for long life

Intelligent charger control guarantees complete functionality of the Dräger X-am 7000. High performance with a battery life of up to 20 hours, depending on the type of battery. An alkaline power supply pack is also available.

Most Dräger sensors used in the Dräger X-am 7000 have a typical life of over five years. Should a replacement be necessary at any time then this can be done very quickly and easily due to its modular design.

Dräger X-am 7000

TECHNICAL DATA

Type	Multi-gas detection instrument with up to 5 measuring channels: 3 electro-chemical (for toxic gases or oxygen) and 2 catalytic or infrared sensors (for combustible gases and vapours or carbon dioxide)	
Dimensions (W x H x D)	approx. 150 x 140 x 75 mm	
Weight	Basic instrument	approx. 600 g
Battery	approx. 490 g (3,0 Ah), 730 g (6,0 Ah)	
Ambient conditions	Temperature	- 20 to + 55 °C, short term - 40 to + 60 °C
Pressure	700 to 1300 hPa	
Humidity	10 to 95 % r.h.	
Type of protection	IP 67	
Typical battery life	NiMH (4,8 V / 3,0 Ah)	> 9 hours
	NiMH (4,8 V / 6,0 Ah)	> 20 hours
	Alkaline	> 20 hours
Audible alarm	> 100 dB (A) at a distance of 30 cm	
Charging time	3.5 to 7 hours, depending on type of battery	
Pump operation	maximum hose length 45 m	
Approvals	ATEX	II 2G EEx in d IIC T4; -20 ≤ Ta ≤ + 60 °C I M2 EEx in d I
	MED	Marine Equipment Directive 96/98/EC
	UL	Class I, Div 1, Group A, B, C, D; Temp. code T4 - 20 ≤ Ta ≤ + 60 °C
	CSA	Class I, Div 1, Group A, B, C, D; T4 - 20 ≤ Ta ≤ + 60 °C
	IECEX	Ex ia d I/IIC T4; - 20 ≤ Ta ≤ + 60 °C
	CE mark	Electromagnetic compatible (Directive 89/336/EEC)

ORDER INFORMATION

Dräger X-am 7000, basic unit with rubber-boot, carrying strap, calibration adapter, water and dust filter.	83 17 400
In order to get a fully operational unit a power pack and up to 5 sensors have to be ordered.	
Optionally, a built-in pump or a data logger can be ordered	
Waist belt (to fit to carrier 83 16 878)	83 17 682
Set carrying clip (plate + clip)	83 17 771
Power supply units	
Battery NiMH 4,8 V / 3,0 Ah	83 17 408
Battery NiMH 4,8 V / 6,0 Ah	83 17 454
Alkaline power supply unit (without Alkaline batteries)	83 17 550
Alkaline batteries (4 pcs.)	83 17 447
Charging unit	
Charger module	83 16 487
Power supply with cable (worldwide) for max. 8 Dräger X-am 7000 charger module	83 15 805
Power supply (worldwide) for single Dräger X-am 7000 charger module	83 15 635
Power supply (universal) for several charger modules Dräger X-am 7000 (max. 2)	83 16 994
Vehicle connector cable 12V/24V for charger module 83 16 487	83 17 754
Vehicle bracket for 1 Dräger X-am 7000 charger module	83 18 169
Sensors	
IR-EX	68 10 460
IR-CO ₂	68 10 590

Dräger X-am 7000

IR- CO ₂ HC	68 10 599
Smart Cat Ex Sensor	68 10 710
Smart Cat Ex Sensor HC	68 10 410
Smart Cat Ex Sensor FR	68 11 430
Smart PID Sensor	83 19 100
Special adjustment – depending on type of gas	
You can see further information on sensors on page 69 and on hoses on pages 77-80	
Certificate	
Manufacturer's Certificate	83 18 189
Calibration Certificate (order with instrument)	83 18 350
Other Options	
Upgrade pump	83 17 804
Upgrade data logger (in Dräger Service)	83 18 249
Upgrade Smart PID DrägerSensor (in Dräger Service)	83 19 100
NOTE: Software Update to Software-Version 1.61 required!	
Pump accessories	
Pump adapter	83 17 639
Pump adapter with gas outlet	83 18 374
Set pump membrane (2x) Dräger X-am 7000	83 18 607
Set sensor membrane (5x) Dräger X-am 7000	83 17 805
Further information on sensors and hoses can be found in the accessories price list	
Calibration accessories	
Calibration adapter	83 17 656
Vapour calibration adapter Dräger X-am 7000	83 17 970
Dräger X-am 7000 E-Cal Module (incl. accessories)	83 17 705
Dräger X-am 7000 power supply for E-Cal Module	83 15 635
Dräger Bump Test Station Dräger X-am 7000 without gas cylinder	83 18 909
Dräger Bump Test Station Dräger X-am 7000 complete with gas mixture test gas cylinder 58 L optional (included in order)	83 19 072
15 ppm H ₂ S, 50 ppm CO, 2,5 Vol.-% CH ₄ , 18 Vol.-% O ₂	68 11 130
15 ppm H ₂ S, 2 Vol.-% CO ₂ , 2,5 Vol.-% CH ₄ , 18 Vol.-% O ₂	68 11 131
15 ppm H ₂ S, 50 ppm CO, 2 Vol.-% CO ₂ , 2,5 Vol.-% CH ₄ , 18 Vol.-% O ₂	68 11 132
100 ppm i-C ₄ H ₈ (i-Buten)/Air	68 11 629
You can see further information on test gases on pages 77-80 and on Dräger E-Cal stations on page 74	
Communication accessories	
Dräger GasVision	83 14 034
Software Licence	83 14 099
This licence authorises the use of Dräger GasVision software on an additional PC	
Dräger CC-Vision	64 08 515
RS 232 cable incl. IR Interface	64 08 140
For Dräger MiniWarn/Dräger microPac/Dräger X-am 7000	
USB DIRA with USB cable	83 17 409
Communications adapter infrared to USB	
Carrying cases	
Nylon carrying case	83 17 684
Leather carrying case	83 17 683
Dräger X-am 7000 Case Plastic, black (without contents)	33 10 846
Dräger X-am 7000 Case Aluminium (without contents)	83 18 913
Rubber boot (spare part)	83 17 397
Carrying frame (carrying strap with plate)	83 16 878

Dräger Multi-PID 2

The Dräger Multi-PID 2 is the next generation of reliable photoionisation detectors for volatile organic compounds (VOCs). Its innovative PID technology combines high sensitivity and robustness with suitability for various applications like soil, water or jar headspace screening, leak detection and confined space measurements.



Dräger Multi-PID 2:
Ideal for detecting VOCs
at very low levels.



Pre-filter tubes:
For specific Benzene measurements.

Wide measuring range

Equipped with a standard 10.6 eV UV-lamp the Dräger Multi-PID 2 covers a measuring range from 0 to 2,000 ppm. An optional dilution probe extends the measuring range up to 20,000 ppm.

Extensive gas library

The built-in gas library holds up to 70 substances. Another 60 substances are identified and can be substituted in the library. For additional, customer specific compounds the response factor can be quantified by the Dräger own application laboratory.

Large display

The backlit display with its large font is easy to read. All information is displayed on one screen. The language setting of the display and menu structure can be pre-set when ordering to English, German, French, Spanish or Italian.

Various warning functions

The Dräger Multi-PID 2 is equipped with a loud audible alarm and a LED to warn if dangerous levels (e.g. peak, STEL or TWA) of substances are reached. Additionally, a pump and flow alarm are integrated in the instrument.

Dedicated Calibration Key

Immediate access to the calibration functions is realized with a dedicated calibration key. This allows the user to perform a calibration without entering the main menu.

Built-in data logger

An internal data logger is included in the instrument. The software package „GasVision“ allows the easy evaluation of the measured data. The data logging feature allows the operator to record 15,000 sampling points which can be downloaded to a PC.

Pre-filter tubes

The new PID equipment enables the use of pre-filter tubes. An easy-to-fit adapter quickly allows the tube to be fitted to the device. The unit can therefore specifically measure Benzene when this mode is activated or indicate high levels of humidity when the humidity pre-filter tube is fitted.

Worldwide approvals

Dräger Multi-PID 2 can be used worldwide with these approvals: ATEX, MET and CE-mark.

Dräger Multi-PID 2

TECHNICAL DATA

Photoionization Monitor for detecting volatile organic compounds in ambient air		
Size (H x W x D, max.)	230 x 110 x 80 mm, width at handle 67 mm; 9" x 4.25" x 3", width at handle 2.6"	
Weight (approx.)	860 g; 1.9 pounds	
Ambient conditions	Temperature	0 to + 40 °C, + 32 to + 105 °F
	Humidity	0 to 95 % r.h., not condensing
Typical battery life	NiCd	8 hours, rechargeable battery
Audible alarm	≥ 80 dB (A) at a distance of 30 cm; 1ft.	
Approvals	ATEX	II 2G EEx ib IIC T4; 0 ≤ Ta ≤ + 40 °C
	MET	Class I, Div 1, Group A, B, C, D T4
	CE-mark	electro-magnetic compatibility (Directive 89/336/EEC)

ORDER INFORMATION

Dräger Multi-PID 2*	83 18 320
Charger USA, 110 V AC	64 05 428
Charger worldwide 110-230 V	83 17 661
Field Kit Case**	83 17 663
Carrying Case	83 17 664
Calibration Gas (100 ppm i-Butene)	68 10 687
Calibration Gas Regulator	83 10 688
Computer Cable Kit	83 17 667
Spare Battery Pack	83 17 670
11,7 eV Detector Lamp	83 18 307
12 V DC Car-Adapter	83 18 317
Pre-filter tube adapter	83 19 093
Benzene pre-filter tube	83 03 511
Humidity pre-filter tube	83 03 531

* Each instrument includes: 10.6 eV detector lamp, rechargeable battery, 17 cm (6.7") reinforced Teflon sample probe, wrist strap, multi-tool for lamp changing, user manual, laminated user reference card, water/particle filters (10 pcs.)

** Field Kit Case includes: carrying case, calibration gas, calibration gas regulator, computer cable kit, spare battery pack

Dräger Multi-IMS

The Dräger Multi-IMS is a portable ion mobility spectrometer for detection of chemical warfare agents and toxic industrial gases (TICs). Its compact, extremely sturdy housing and low weight of only 800 g make it the suitable personal warning device for civil applications.

ST-394E-2003



Dräger Multi-IMS:

Easily carried instrument for the detection of toxic industrial gases.

Technology

The core of the Multi-IMS is a state-of-the-art ion mobility cell based on the principle of the proven open loop ion mobility spectrometry, with clearly improved sensitivity and selectivity.

Benefits

- Cost intensive molecular sieve filters or membranes are a thing of the past with open loop ion mobility spectroscopy – reduced operating costs
- Extended inactivity does not adversely affect the open loop ion mobility cell
- Ergonomic shape and light weight.

Operation

The operation of the instrument is menu driven with a three button keypad, using one hand. The display clearly indicates the substance library (CWA, TIC), the date, the time, the charge status, the level of the audible alarm and the substance group detected in an alarm condition.

Contents

The kit includes all components required for operation and comes in a case.

It contains the following components:

- charger / power pack
- spare Lithium ion rechargeable battery
- pouch with neck strap - Multi-IMS monitor
- spare filters (3)
- functional test gas
- instructions for use.

Data logger

The integrated data logger records the alarms and all alarm information and can be read out by the push of a button or via the optionally available UIP software.

Alarms

Alarms are generated audibly, visually (LED) and by means of a danger sign on the display. Via the symbols the user is informed about the kind of risk without having to have special knowledge about chemistry.

UIP software (User Interface Program)

The UIP software allows the user to access the Multi-IMS via a computer. The software enables readout of the data logger, password reset and visualisation of the sensor signals.

Features and benefits

- sturdy housing MIL-STD (military standard)
- audible and visual alarms
- simple password-protected user interface
- integrated data logger for alarm information
- operating hour meter
- signal trend display
- serial interface
- automatic self-test functions
- open loop ion mobility spectrometry.

Dräger Multi-IMS

TECHNICAL DATA

Type	Portable ion mobility spectrometer for detection of chemical warfare agents and TICs.
Weight	< 800 g incl. storage battery
Size (H x W x D)	240 x 101 x 57 mm (9.0 x 4.0 x 2.2 inch)
Typical operating time	8 to 10 hours, Li-ion rechargeable battery
Operating temperature	- 30 to + 55 °C (- 22 to 131 °F)
Storage temperature	- 40 to + 71 °C (- 40 to 160 °F)
EMI, EMP, EMC	MIL-STD-461E (military standard)
Vibration, impact	MIL-STD-810E (military standard)
Data Interface	RS 232

ORDER INFORMATION

Dräger Multi-IMS Kit	83 19 240
with Lithium-Ion battery stored in a case incl. accessories (second battery, carrying case, dust filter, function test pin, power supply 100/240 V incl. cable)	
Dräger Multi-IMS	83 19 239
UIP software	83 17 822
Data cable	83 17 826
Special inlet cover	83 17 825
Charging module	83 17 827
AA battery	83 17 828
Dust filter	83 16 585

DrägerSensors for Portable Instruments

The heart of any gas detection instrument is its sensors. Dräger Safety, a leading manufacturer in sensor technology, stands for the highest quality: All sensors are developed by Dräger Safety itself where they are produced under clean room conditions and checked individually before delivery. Dräger sensors have proved themselves worldwide under extreme environmental conditions. The sensor family is constantly being expanded in order to cope with new challenges and customer requirements.

DrägerSensors stand for high accuracy and long life

High selectivity of gas to be monitored and a short response time guarantees a reliable and immediate warning. Since all sensors are developed and manufactured by Dräger Safety itself an optimal correlation between instrument and sensor is guaranteed – a precondition for user-friendly instruments.

With over 30 different DrägerSensors more than 100 gases and vapours can be detected. This involves three different detection principles. Electro-chemical sensors warn of toxic gases and a lack of or excess of oxygen, catalytic and infrared optic sensors monitor explosive mixtures. Catalytic DrägerSensors are based on the heat-reaction principle by which it is possible to measure various combustible gases at the same time. DrägerSensors are accurate and are not cross sensitive in relationship to other gases. They are used in special applications such as detecting combustible gases in inert areas (in Multi-Warn II and Dräger X-am 7000).

Particularly small and lightweight instruments can be used with the new Dräger sensors, the miniaturised XXS-Generation. By constantly expanding recognised electro-chemical principles and a combination of miniaturised design

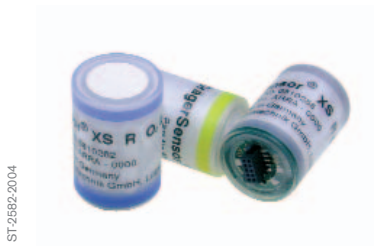
elements the weight and volume of sensors have been drastically reduced. Thus the high sensitivity of the gases to be monitored together with excellent long-term stability and quick response times ensure that the user receives a rapid and reliable warning of dangerous gases. DrägerSensors XXS set a worldwide standard in gas detection technology and are used in the detection of O₂, CO and H₂S in small format instruments such as Dräger Pac 1000, 3000 and 5000. Important gases such as Cl₂, CO₂, HCN, NH₃, NO₂, PH₃ and SO₂ are monitored with the DrägerSensors XXS in the Dräger Pac 7000 (from the same product family).

The proven smart software sensors are renowned for their intelligence: Sensor specific data such as temperature compensation, calibration values, type of gas and measurement range are already stored and transferred to the next instrument. In this manner DrägerSensors XS (XS stands for „eXtra Stability“, since these sensors, due to their excellent design, permit particularly long calibration intervals) are built into almost every Dräger Safety detection instrument or are exchanged between different instruments. By means of the plug-and-play functionality the instrument is immediately ready for use.



ST-3162-2004

DrägerSensor XXS:
Extra long life and small.



ST-2582-2004

DrägerSensors for Portable Instruments:
Extremely accurate, fast reaction times and long life.

DrägerSensors for Portable Instruments

ORDER INFORMATION

Description	Max. Detection Range	Order No.	Dräger X-am 2000	Dräger X-am 3000	Dräger MiniWarn	Dräger X-am 7000	Dräger MultiWarn II	Dräger Pac III S/E	Dräger Pac Ex	Dräger Pac Ex 2	Dräger Pac 7000	Dräger microPac	Dräger microPac Plus
PID Sensors													
Smart PID		83 19 100				•							
Infrared Sensors													
IR-CO ₂	0 - 25 Vol.-%	68 08 365					•						
IR-Ex	0 - 100 Vol.-%	68 08 475					•						
	CH ₄												
	0 - 100 %LEL												
	Alkane												
IR-Ex	0 - 100 Vol.-%	68 10 460				•							
	CH ₄												
	0 - 100 %LEL												
IR-CO ₂	0 - 5 Vol.-%	68 10 590				•							
IR-CO ₂ HC	0 - 100 Vol.-%	68 10 599				•							
Catalytic Sensors													
Cat Ex C	0 - 100 %LEL	68 08 280			•		•		•				
Cat Ex	0 - 100 %LEL	68 08 260							•				
Cat Ex C FR	0 - 100 %LEL	68 10 122			•		•						
Cat Ex Sensor 2	0 - 100 Vol.-%												
	CH ₄	83 16 109		•						•			
	0 - 100 %LEL												
Smart Cat Ex	0 - 100 %LEL	68 10 710				•							
Sensor													
Smart Cat Ex	0 - 100 Vol.-%	68 10 410				•							
Sensor HC	CH ₄												
	0 - 100 %LEL												
Smart Cat Ex Fast	0 - 100 % LEL	68 11 430				•							
Response	0 - 100 Vol.-%												
CH ₄ Cat Ex 125	0 - 100 % LEL	68 11 050	•										
Dräger Sensors XXS													
CO	0 - 2000 ppm	68 10 882	•								•		
H ₂ S	0 - 100 ppm	68 10 883	•								•		
O ₂	0 - 25 Vol.-%	68 10 881	•								•		
NO ₂	0 - 50 ppm	68 10 884									•		
SO ₂	0 - 50 ppm	68 10 885									•		
PH ₃	0 - 20 ppm	68 10 886									•		
HCN	0 - 50 ppm	68 10 887									•		
NH ₃	0 - 300 ppm	68 10 888									•		
CO ₂	0 - 5 Vol.-%	68 10 889									•		
Cl ₂	0 - 10 ppm	68 10 890									•		
Sensor dummy		68 11 425	•										
Dräger Sensors XS R													
CO	0 - 2000 ppm	68 10 258			•	•	•	•					
H ₂ S	0 - 100 ppm	68 10 260			•	•	•	•					
O ₂	0 - 25 Vol.-%	68 10 262			•	•	•	•					

DrägerSensors for Portable Instruments

Dräger X-am 2000
 Dräger X-am 3000
 Dräger MiniWarn
 Dräger X-am 7000
 Dräger MultiWarn II
 Dräger Pac III S/E
 Dräger Pac Ex
 Dräger Pac Ex 2
 Dräger Pac 7000
 Dräger microPac
 Dräger microPac Plus

DrägerSensors XS EC

CO	0 - 2000 ppm	68 09 105
H ₂ S 100	0 - 100 ppm	68 09 110
H ₂ S HC	0 - 1000 ppm	68 09 180
O ₂ -LS	0 - 25 Vol.-%	68 09 130
O ₂ 100	0 - 100 Vol.-%	68 09 550
NO	0 - 200 ppm	68 09 125
SO ₂	0 - 100 ppm	68 09 160
NO ₂	0 - 50 ppm	68 09 155
COCl ₂	0 - 10 ppm	68 08 582
NH ₃	0 - 300 ppm	68 09 145
HCN	0 - 50 ppm	68 09 150
Cl ₂	0 - 20 ppm	68 09 165
ClO ₂	0 - 20 ppm	68 11 360
Hydride	0 - 20 ppm	68 09 135
CO ₂	0 - 5 Vol.-%	68 09 175
OV	0 - 200 ppm	68 09 115
OV-A	0 - 100 ppm	68 09 522
THT	0 - 100 mg/m ³	68 09 195
Odorant	0 - 40 ppm	68 09 200
H ₂ O ₂	0 - 20 ppm	68 09 170
PH ₃ HC	0 - 1000 ppm	68 09 535
Amine	0 - 100 ppm	68 09 545
CO HC	0 - 10000 ppm	68 09 120
H ₂	0 - 2000 ppm	68 09 185
H ₂ HC	0 - 4 Vol.-%	68 11 365
HF/HCl	0 - 30 ppm	68 09 140
Hydrazine	0 - 3 ppm	68 09 190
Hydrazine D	0 - 3 ppm	68 10 295

DrägerSensors XS 2

CO	0 - 2000 ppm	68 10 365
H ₂ S	0 - 100 ppm	68 10 370
H ₂ S SR	0 - 100 ppm	68 10 575
O ₂	0 - 25 Vol.-%	68 10 375

DrägerSensors Dräger microPac

CO	0 - 999 ppm	68 10 030
H ₂ S	0 - 100 ppm	68 10 032
O ₂	0 - 25 Vol.-%	68 10 034
HCN	0 - 50 ppm	68 10 038
PH ₃	0 - 20 ppm	68 10 036
CO ₂	0 - 5 Vol.-%	68 10 040

DrägerSensors for Portable Instruments

DrägerSensor Smart PID
 DrägerSensor XXS
 DrägerSensor XS EC
 DrägerSensor XS micro Pac
 DrägerSensor X2
 Catalytic System
 Infrared-Sensors

Filter and special accessories

Internal filter for DrägerSensors XS EC

Selective filter A2T (H ₂ S etc.) for CO Sensor	68 10 378
Selective filter D3T (H ₂ S etc.) for CO Sensor	68 09 022
Selective filter B2T (H ₂ S, SO ₂) for NO, Odorant and THT Sensor	68 09 198
Selective filter K1T (H ₂ S) for XS SO ₂ Sensor	68 09 163
Selective filter KX (H ₂ S) for XXS SO ₂ Sensor	68 11 344
Dust filter XS	68 09 021
HF/HCl Sensor cap for Pac III	68 09 541

External dust filter

68 08 244

for Dräger Pac II/III, Dräger Pac Ex, Dräger
 Pac Ex 2, Dräger microPac and Dräger
 MiniWarn (not for instruments with THT,
 NO₂, H₂O₂, Odorant, COCl₂ Sensors)

Accessories for DrägerSensors

DrägerSensor Ready XS	83 18 230
Sensor station for an electro-chemical sensor, battery powered with Varta CR 2025 battery	
ClO ₂ Generator for XS ClO ₂ (12 pills)	68 11 497
ClO ₂ Test strips	68 11 498

Accessories for DrägerSensor Smart PID

Spare lamp	83 19 110
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Dräger Bump Test Station

ST-47/00-2005



Dräger Bump Test Station:

To simplify function tests.

The Dräger Bump Test Station is designed to perform a bump test (also known as a function test or challenge test) for portable instruments with gas. This test is important in order to check the ability of the gas to flow through the dust and water filter over the sensor; to check that the calibration of the sensor is still correct; to check that the alarms work and are set correctly; to be in line with the regulations, standards or recommendations from the local authorities. A Dräger gas calibration cylinder is connected to the station. The bump test station includes the necessary gas regulator and an instrument-specific adapter for the connection of the different instruments. Testing an instrument with a known concentration of gas is the only way to guarantee the reliable and accurate detection of gas hazards. During this test, the sensor's response and the proper function of the instrument's alarm functions are checked.

Flexible adaption

The Dräger Bump Test Station has a gas regulating valve already fitted together with an instrument specific adapter to connect it to various detection instruments.

Easy to operate

To carry out tests, a Dräger calibrated cylinder containing the gas to be monitored is connected to the station. The valve automatically opens the gas cylinder upon insertion of an instrument into the module.

Reliable and fast

The bump test facilitates the comparison between the concentrations displayed on the instrument with concentrations of test gases (indication on calibrated gas cylinder) and also checks the alarm functions. If a bump test was not successful the instrument must be recalibrated.

Bump Test Station for every application

Dräger Bump Test Station is available for all Dräger X-am and Pac models and associated detection equipment.

ORDER INFORMATION

Dräger Bump Test Station

Dräger Bump Test Station Dräger Pac 1000 - 7000 without gas cylinder	83 17 410
Dräger Bump Test Station Dräger Pac 1000 - 7000 complete with an optional test gas cylinder 58 L (to indicate on order):	83 18 586
50 ppm NH ₃ /N ₂	68 11 352
50 ppm CO/air	68 11 117
2.5 Vol.-% CO ₂ /air	68 10 391
20 ppm H ₂ S/air	68 10 393
25 ppm H ₂ S/N ₂	45 02 155
100 ppm H ₂ S/N ₂	36 02 359
18 Vol.-% O ₂ /N ₂	68 11 250
10 ppm HCN/N ₂	68 10 642
5 ppm Cl ₂ /N ₂	36 02 322
10 ppm NO ₂ /N ₂	68 10 646
0.5 ppm PH ₂ /N ₂	68 10 647
10 ppm SO ₂ /N ₂	68 10 645
Dräger Bump Test Station Dräger X-am 1/2/5000 without gas cylinder	83 19 131
Dräger Bump Test Station Dräger X-am 1/2/5000 complete with optional gas mixture test gas cylinder 58 L (to indicate on order):	83 19 130
15 ppm H ₂ S, 50 ppm CO, 2,5 Vol.-% CH ₄ , 18 Vol.-% O ₂	68 11 130
0.9 Vol.-% C ₃ H ₈ /Air	68 11 118

Dräger Bump Test Station

Dräger Bump Test Station Dräger X-am 3000 without gas cylinder	83 17 425
Dräger Bump Test Station Dräger X-am 3000 complete with optional mixed gas test gas cylinder 58 L	83 19 071
15 ppm H ₂ S, 50 ppm CO, 2,5 Vol.-% CH ₄ , 18 Vol.-% O ₂	68 11 130
Dräger Bump Test Station Dräger X-am 7000 without gas cylinder	83 18 909
Dräger Bump Test Station Dräger X-am 7000 complete with an optional mixed test gas cylinder 58 L (to indicate on order):	83 19 072
15 ppm H ₂ S, 50 ppm CO, 2,5 Vol.-% CH ₄ , 18 Vol.-% O ₂	68 11 130
15 ppm H ₂ S, 2 Vol.-% CO ₂ , 2,5 Vol.-% CH ₄ , 18 Vol.-% O ₂	68 11 131
15 ppm H ₂ S, 50 ppm CO, 2 Vol.-% CO ₂ , 2,5 Vol.-% CH ₄ , 18 Vol.-% O ₂	68 11 132
100 ppm i C ₄ H ₈ (i-Buten) /Air	68 11 629
Dräger Mobile Printer for Bump Test Station (for more information please see page 106)	83 19 310

Dräger E-Cal

Dräger E-Cal has perfected instrument management. The device automatically tests and performs calibration checks for all portable Dräger Safety gas detection instruments. At the same time important parameters are documented and stored using Dräger CC-Vision E-Cal software. Dräger E-Cal was developed to save time, reduce costs and minimise management activities. Due to its small size the station can be set up anywhere.



Dräger E-Cal:

The Automatic Test and Calibration Station.

Modular construction

The modular Dräger E-Cal comes with a master station and up to 10 different instrument modules. The system is operated with a normal PC using Dräger CC-Vision E-Cal software. The Dräger E-Cal station can be customised as required, and thanks to its scaling facility it can be converted or expanded as required.

MasterStation

The MasterStation is the control centre of the E-Cal system. It supports up to 10 instrument modules at once and is available in two different versions. The MasterStation six controls a maximum of six different gases, the MasterStation 12 up to 12. The MasterStations are computer controlled and ensure that any testing and calibration is carried out fast, efficiently and with the utmost degree of accuracy. The control centre can communicate bidirectionally and simultaneously supports different instrument types. This means the number of configuration possibilities of Dräger E-Cal is almost infinite.

Instrument module

The instrument module establishes the communication between the gas detection device and the MasterStation/PC. It automatically detects when an instrument is put in and reports this event to the control software CC-Vision E-Cal. The instrument module controls the gas supply so that an adequate gas flow to the instrument is always ensured. The test or calibration result is displayed as well. Moreover, the instrument module can also be used in combination with the regular instrument wall plug charger to recharge the unit.

Economic

Dräger E-Cal can be operated with standard gases as well as with mixed gases and saves time and costs due to minimal test gas consumption. Dräger E-Cal meets all the requirements necessary for professional equipment management.

ORDER INFORMATION

Test- and calibration station

MasterStation incl. Dräger CC-Vision E-cal, power supply and accessories to connect up to 10 instrument modules

Dräger E-Cal MasterStation 2 USB, complete For up to 2 gases	83 19 452
Dräger E-Cal MasterStation 6 USB, complete For up to 6 gases	83 19 456
Dräger E-Cal MasterStation 12 USB, complete For up to 12 gas modules including accessories	83 19 412
Dräger MiniWarn Module	83 16 552
Dräger Multiwarn II Module	83 16 553
Dräger Pac III Module	83 16 554
Dräger Pac Ex 2 Module	83 16 539
Dräger Pac 1000 - 7000 Module (4-in-1 Module)	83 18 589

Dräger E-Cal

Dräger X-am 1/2/5000 Module	83 18 754
Dräger X-am 3000 Module	83 17 719
Dräger X-am 7000 Module	83 17 705
Accessories	
Dräger CC-Vision E-Cal	83 16 557
Module adapter USB (incl. Dräger CC-Vision E-Cal)	83 19 409
Purge Module	83 16 560
On demand pressure reducer	83 16 556
Dräger E-Cal pressure reducer (On demand + DIN 14 adapter)	68 10 692
Instrument power supplies for instrument charger in module	
Dräger MiniWarn power supply	83 16 990
Dräger Multiwarn II power supply	83 16 991
Dräger Pac III power supply	83 15 635
Dräger Pac Ex 2 power supply	83 16 990
Dräger X-am 7000 power supply	83 15 635
Dräger X-am 3000 power supply	83 16 990
Dräger X-am 1/2/5000 power supply	83 15 635
Calibration accessories	
Test gases and calibration accessories can be found on pages 77-80	

Dräger Software: Dräger CC-Vision, Dräger GasVision

Dräger Safety provides the necessary software to configure and calibrate portable gas detection instruments and also to compile and evaluate measurement results. By applying professional software solutions on site the user saves time and cost and can always rely on equipment functionality and complete documentation of test results.

Configuration

Using Dräger CC-Vision software, Dräger portable gas detection instruments such as Dräger Multiwarn II, Dräger Miniwarn, Dräger Pac III, Dräger Pac 1000-7000, Dräger X-am 1100-2000, Dräger X-am 3000 and Dräger X-am 7000 can be configured individually. The instruments can be calibrated and registered using Dräger CC-Vision software.

Easy to operate

Instrument functions are clearly displayed on the screen and facilitate quick and individual adjustment of parameters and sensors.

Documentation and management

Measured values can be observed, reprocessed and evaluated using Dräger GasVision software in conjunction with Dräger Multiwarn II, Dräger Miniwarn, Dräger Pac III, Dräger Multi-PID 2, Dräger Pac 1000-7000, Dräger X-am 1100-2000, Dräger X-am 3000 and Dräger X-am 7000.

Communication kits (software and connecting cable) are available for the entire range of Dräger Safety Portables.



Dräger Software:
Dräger CC-Vision,
Dräger GasVision:
 Professional configuration and data evaluation.

Dräger Software: Dräger CC-Vision, Dräger GasVision

ORDER INFORMATION

Dräger GasVision

Software evaluation of measured values under Windows in conjunction with Dräger Multiwarn II, Dräger MiniWarn, Pac III, Dräger Multi-PID 2, Dräger Pac 1000-7000, Dräger X-am 1100-2000, Dräger X-am 3000, Dräger X-am 7000 and Dräger Polytron 7000 together.

Dräger GasVision	83 14 034
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Software Licence	83 14 099
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This licence authorises the use of Dräger GasVision software on an additional PC

Dräger CC-Vision

Dräger CC-Vision allows you to individually configure gas detection instruments to your own requirements. These instruments include:

Dräger Multiwarn II, Dräger MiniWarn, Pac III, Dräger Pac 1000-7000, Dräger X-am 1100-2000, Dräger X-am 3000, Dräger X-am 7000 and Dräger Polytron 7000

Dräger CC-Vision software is used for calibration and registration of gas detection instruments.

Dräger CC-Vision	64 08 515
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Single Gas Communication Kits

Communications Module for Dräger Pac 1000 - 7000	83 18 587
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complete with USB cable and Dräger PacVision Software

Software set Dräger microPac	64 08 505
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incl. PC-Software microPac Vision, calibration adapter, complete

Complete Set Dräger microPac	64 08 500
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incl. Software microPac Vision, IR-Interface with cable and IR-Interface Positioning aid

Multi Gas Communication Kits

PC Communication kit 1 Dräger X-am 1/2/5000	83 18 761
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with USB connection, Dräger CC-Vision

PC Communication kit 2 Dräger X-am 1/2/5000	83 18 762
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with USB connection, Dräger CC-Vision and Barcode Reader

Cables

RS 232 cable 9-25	64 08 257
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For Dräger Pac III incl. adapter from 25 to 9 pin

RS 232 cable incl. Interface	83 14 000
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For Dräger Multiwarn II incl. adapter from 25 to 9 pin

RS 232 cable inc. Interface	64 08 140
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For Dräger MiniWarn/Dräger microPac/Dräger X-am 7000 incl. adapter from 25 to 9 pin

RS 232 cable 9-25	64 08 257
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For Dräger Pac Ex 2/Dräger X-am 3000 incl. adapter from 25 to 9 pin

USB DIRA with USB cable	83 17 409
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For Dräger MiniWarn, Dräger-X-am 1/2/5000. Dräger X-am 7000 and Dräger Interlock; Communication adapter infrared to USB

Portable Gas Detection Accessories

To expand the area of application and safeguard functionality Dräger Safety provides an extensive range of accessories for portable gas detection instruments. Checking equipment with known gas concentrations is the only way to guarantee reliable, correct measurement and warning of hazardous gases.

Filter and special accessories

In order to be able to react to any atmosphere the user has a comprehensive pre-filter and special accessory programme at his disposal. Multiple use accessories used with individual types of instrument include for example probes. They enable reliable detection even in confined spaces.

Evaluation and configuration accessories

In addition to the individual programmes Dräger GasVision and Dräger CC-Vision it is also possible to obtain complete communication kits and software accessories to expand the performance spectrum of single and multi-gas instruments.

This enables the user to read out barcodes and event loggers.

Test gas and calibration accessories

To facilitate efficient instrument management dedicated calibration gases in ready to use bottles, optimal concentrations and mixtures, as well as corresponding accessories such as regulating valves, adapters and special hoses are available. Delivered in small lightweight disposable cylinders, gases allow calibration or function tests to be carried out in the factory or on site. Empty disposable cylinders can be disposed of safely.

ORDER INFORMATION

Calibration adapter for Dräger Multiwarn

Calibration adapter 1 Dräger Multiwarn II without internal pump, for calibration with test gas bottle	83 13 644
Calibration adapter 2 Dräger Multiwarn II for calibration of vapours with calibration chamber also suitable for MiniWarn	68 09 325
Calibration adapter 3 Dräger Multiwarn II for calibration with calibration bottle / ampoules	83 14 041

Calibration adapter for Dräger MiniWarn

Calibration adapter 1 Dräger MiniWarn a) for calibration with test gas bottle b) for calibration with calibration bottle in case b) to be used with adapter calibration gas bottle	64 08 135
Calibration adapter 2 Dräger MiniWarn for calibrating vapours with calibration chamber	68 04 620 68 09 325

Calibration adapter for Dräger Pac Ex 2; Dräger Pac 1000 – 7000

Calibration adapter Dräger Pac 1000 – 7000	83 18 588
Vapour calibration adapter Dräger Pac Ex 2 for calibration chamber	AG 02 547
Calibration adapter Dräger Pac Ex 2	83 16 300
Calibration adapter Dräger Pac Ex / Dräger Pac III	68 06 291
Pac Ex adapter for calibration chamber	68 06 587

Calibration adapter for Dräger X-am 1100 - 2000; Dräger X-am 3000; Dräger X-am 7000

Calibration adapter Dräger X-am 3000	83 17 336
Calibration adapter Dräger X-am 7000	83 17 656
Vapour calibration adapter Dräger X-am 7000	83 17 970

Portable Gas Detection Accessories

Calibration cradle X-am 1/2/5000	83 18 752
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Hoses

Hose electrical conductivity, not for H ₂ S	11 80 681
Viton hose, solvent resistant also for H ₂ S	12 03 150

Test gases and regulating valves

Single Gas Bottles

Gas	Concentration			Content	Order No.
Ammonia	NH ₃	50 ppm	in N ₂	58 litres, 8AL	68 11 352
Ammonia	NH ₃	100 ppm	in N ₂	58 litres, 8AL	68 10 387
Ammonia	NH ₃	300 ppm	in N ₂	58 litres, 8AL	68 11 353
Hydrocyanic Acid	HCN	10 ppm	in N ₂	58 litres, 8AL	68 10 642
Butane	n-C ₄ H ₁₀	0,9 Vol.-%	in air	103 litres, 6D	68 10 987
Chlorine	Cl ₂	5 ppm	in N ₂	58 litres, 8AL	36 02 322
Chlorine	Cl ₂	10 ppm	in N ₂	58 litres, 8AL	68 10 641
Hydrogen Chloride	HCl	10 ppm	in N ₂	58 litres, 8AL	68 10 643
Hydrogen Chloride	HCl	25 ppm	in N ₂	58 litres, 8AL	45 94 626
Hexan	C ₆ H ₁₄	0,48 Vol.-%	in air	31 litres, 6D	68 10 988
Isobuten	i-C ₄ H ₈	100 ppm	in air	34 litres, 2AL	68 10 687
Isobuten	i-C ₄ H ₈	100 ppm	in air	58 litres, 8AL	68 11 629
Carbon Dioxide	CO ₂	2,5 Vol.-%	in air	58 litres, 8AL	68 10 391
Carbon Dioxide	CO ₂	20 Vol.-%	in air	103 litres, 6D	68 11 357
Carbon Monoxide	CO	50 ppm	in N ₂	103 litres, 6D	45 02 153
Carbon Monoxide	CO	50 ppm	in air	58 litres, 8AL	68 11 117
Carbon Monoxide	CO	100 ppm	in N ₂	103 litres, 6D	68 10 392
Carbon Monoxide	CO	250 ppm	in air	58 litres, 8AL	68 11 354
Methane	CH ₄	2 Vol.-%	in air	103 litres, 6D	68 10 389
Methane	CH ₄	2 Vol.-%	in air	58 litres, 8AL	68 11 116
Methane	CH ₄	2.5 Vol.-%	in air	103 litres, 6D	36 03 006
Methane	CH ₄	50 Vol.-%	in N ₂	34 litres, 2AL	68 11 022
Pentane	C ₅ H ₁₂	0.75 Vol.-%	in air	75 litres, 6D	68 10 761
Hydrogen Phosphide	PH ₃	0.5 ppm	in N ₂	58 litres, 8AL	68 10 647
Propane	C ₃ H ₈	0.9 Vol.-%	in air	103 litres, 6D	68 10 390
Propane	C ₃ H ₈	0.9 Vol.-%	in air	58 litres, 8AL	68 11 118
Oxygen	O ₂	18 Vol.-%	in N ₂	58 litres, 8AL	68 11 250
Sulphur Dioxide	SO ₂	10 ppm	in N ₂	58 litres, 8AL	68 10 645
Hydrogen Sulphide	H ₂ S	20 ppm	in air	58 litres, 8AL	68 10 393
Hydrogen Sulphide	H ₂ S	25 ppm	in N ₂	58 litres, 8AL	45 02 155
Hydrogen Sulphide	H ₂ S	40 ppm	in N ₂	58 litres, 8AL	52 39 089
Hydrogen Sulphide	H ₂ S	100 ppm	in N ₂	58 litres, 8AL	36 02 359
Nitrogen	N ₂	99.999 Vol.-%	in air	103 litres, 6D	68 10 394
Nitrogen Dioxide	NO ₂	10 ppm	in N ₂	58 litres, 8AL	68 10 646
Nitrogen monoxide	NO	10 ppm	in N ₂	58 litres, 8AL	68 10 986
Nitrogen monoxide	NO	25 ppm	in N ₂	34 litres, 2AL	68 10 644
Hydrogen	H ₂	2 Vol.-%	in air	103 litres, 6D	68 10 388

Mixed Gas Bottles

Mixed Gas				34 litres, 2AL	68 10 935
Methane	CH ₄	60 Vol.-%			
Carbon Dioxide	CO ₂	40 Vol.-%			
Mixed Gas				15 litres, 2AL	68 11 004
Butan	C ₄ H ₁₀	8 Vol.-%	in N ₂		
Carbon Dioxide	CO ₂	13.8 Vol.-%			

Portable Gas Detection Accessories

Mixed Gas				58 litres, 8AL	45 94 944
Hydrogen Sulphide	H ₂ S	25 ppm	in air		
Carbon Monoxide	CO	100 ppm			
Pentane	C ₅ H ₁₂	0.45 Vol.-%			
Mixed Gas				58 litres, 8AL	68 11 130
Carbon Monoxide	CO	50 ppm	in N ₂		
Hydrogen Sulphide	H ₂ S	15 ppm			
Methane	CH ₄	2.5 Vol.-%			
Oxygen	O ₂	18 Vol.-%			
Mixed Gas				58 litres, 8AL	68 11 131
Carbon Dioxide	CO ₂	2 Vol.-%	in N ₂		
Hydrogen Sulphide	H ₂ S	15 ppm			
Methane	CH ₄	2.5 Vol.-%			
Oxygen	O ₂	18 Vol.-%			
Mixed Gas				58 litres, 8AL	68 11 132
Hydrogen Sulphide	H ₂ S	15 ppm	in N ₂		
Carbon Monoxide	CO	50 ppm			
Carbon Dioxide	CO ₂	2 Vol.-%			
Methane	CH ₄	2.5 Vol.-%			
Oxygen	O ₂	18 Vol.-%			
Mixed Gas				58 litres, 8AL	68 11 647
Hydrogen Sulphide	H ₂ S	15 ppm	in N ₂		
Methane	CH ₄	2.2 Vol.-%			
Oxygen	O ₂	18 Vol.-%			
Mixed Gas				58 litres, 8AL	68 11 646
Methane	CH ₄	2.2 Vol.-%	in N ₂		
Oxygen	O ₂	18 Vol.-%			
Miscellaneous Gases					19 63 384
Pressure reducer for disposable bottles					
All regulating valves permit a flow of 0.5 litres/minute					
On Demand regulating valve Model 2001					83 16 556
Standard regulating valve					68 10 397
Trigger regulating valve					68 10 649
Regulating valve Dräger Multi-PID 2					68 10 688
Dräger E-Cal regulating valve (DFR 2003 + DIN14 adapter) for rechargeable cylinders					68 10 692
Accessories					
Case					68 11 181
Cylinder disposal unit					68 11 182
Calibration chamber and calibration cylinder with ampoules					
Calibration chamber for solvent					68 02 206
Calibration cylinder for ampoules					68 03 407
Ampoule CO	100 ppm				68 07 920
Ampoule CO	300 ppm				68 07 921
Ampoule H ₂ S	10 ppm				68 08 140
Ampoule H ₂ S	20 ppm				68 08 141
Ampoule H ₂ S	40 ppm				68 08 142
Ampoule H ₂ S	100 ppm				68 08 143
Ampoule NO ₂	10 ppm				68 07 765
Ampoule NO ₂	50 ppm				68 07 766
Ampoule NH ₃	50 ppm				68 07 924
Ampoule NH ₃	300 ppm				68 07 923
Ampoule SO ₂	10 ppm				68 07 763

Portable Gas Detection Accessories

Ampoule SO ₂	4 ppm	68 07 926
Ampoule SO ₂	1 ppm	68 07 925
Ampoule Cl ₂	8 ppm	68 07 928
Ampoule HCN	10 ppm	68 07 929
Water and dust filter with 6 cm hose		83 13 648
Probes		
GL Probe		64 08 160
Monitoring probe 1.50 m, contains pump adapter and filter		64 08 239
Telescopic probe to be inserted		68 01 954
Telescopic probe 100 with accessories		83 16 530
Telescopic probe ES 150		83 16 533
Bar probe 90 with accessories		83 16 532
Bar probe 400		83 17 188
Leakage probe 70		83 16 531
Test probe solvent resistant		68 02 279
Floating probe (without hose)		68 02 337
Floating probe (10 m)		68 07 097
Floating probe kit		83 18 371
H ₂ S-resistant with 5 m Viton hose, dust and water filter		
Probes accessories		
Contains various adapters and rubber ball pumps		83 16 534
Hoses		
Hose for floating probe (electrically conductive, not for H ₂ S)		11 80 681
Viton hose (solvent resistant, also for H ₂ S)		12 03 150
Spare hose (2 m)		83 18 205
for telescopic probe 100 and leakage probe 70		
Rubber ball pump		68 01 933
(for Dräger Pac Ex 2 in connection with calibration adapter 83 16 300)		
Dräger Smartpump		
Dräger SmartPump		83 13 832
Accessories for Dräger SmartPump		
Carrying case		45 30 040
Adapter Dräger Pac II, Dräger Pac III, Dräger Pac Ex		68 06 291
Calibration adapter Dräger Multiwarn I		68 07 130
Calibration adapter Dräger Multiwarn II		83 13 644
Calibration adapter Dräger Pac 1000 – 7000		83 18 588
Water and dust filter Smart Pump		83 13 968

Stationary Gas Detection

THE PRIMARY OBJECTIVE OF DRÄGER SAFETY GAS DETECTION SYSTEMS IS TO WARN AGAINST HARMFUL GASES WITH A FOCUS ON PROTECTING HUMAN LIVES AND INDUSTRIAL FACILITIES. WE DEVELOP OUR PRODUCTS AND SOLUTIONS IN CLOSE COOPERATION WITH OUR CUSTOMERS, WHICH ALLOWS US ALWAYS TO PROVIDE YOU WITH EXACTLY WHAT YOU NEED TO ACHIEVE YOUR INDIVIDUAL PROTECTION GOAL.

Our detection technology is used extensively throughout industries and businesses, in public buildings and arenas and wherever there is a risk against injury or damage to people and property, respectively. We monitor production facilities, warehouses and workplaces to warn against leaks and gas hazards and where necessary take the necessary action and provide breathing air in critical environments, buildings and transportation.

Besides offering a uniquely wide range of sensors, detectors and technical components, we provide every possible type of support from installation, commissioning, service and training to a comprehensive database containing information on more than 1,600 hazardous substances. We have extensive knowledge of the science of gases, and provide you with direct

information in the form of detailed data sheets or access to our knowledge via the Internet e.g. technical properties and cross sensitivities.

DrägerSensors measure more than 300 combustible / toxic gases and Oxygen in various measuring ranges from % by volume down to pbb levels. We have products featuring whichever detection technology your application requires: infrared absorption, electro-chemical reaction, catalytic combustion and ion mobility spectroscopy (IMS). Peripheral products made by third party manufacturers such as horns, warning lights and fans can easily be integrated into our gas detection solution. We meet global approval requirements and play a major role in compiling and conforming to new global standards.

Our control and monitoring systems continuously display measured values of harmful gases which allows any system operator immediate recognition of any hazardous condition. All measured data is stored within the monitoring system. Automatic measures are taken by the control system should any alarm threshold be exceeded. This includes the operation of warning devices, safety shutdown actions or personnel evacuation. The automated system ensures that not a moment of precious time is wasted. Total system reliability is supported by the self-testing DrägerSensor, which regularly self tests its own internal function to ensure that there are no gaps in the safety net.

See three examples from our wide range of products for gas detection systems:

Dräger Polytron 7000

The Dräger Polytron 7000 is a gas detector that can satisfy all toxic and oxygen gas measurement applications on a single platform. It meets the requirements of the compliance market as well as the high specification requirements of customised solutions. Developed with an innovative modular design, there is now the flexibility to choose and purchase only the features that the application requires. The unit is upgradeable to a higher specification after it has been installed simply by adding modules. This allows the Dräger Polytron 7000 to develop in line with changing application requirements.



ST-3812-2003

Dräger Polytron 7000:

Intrinsically safe gas detector for toxic gases and oxygen in ambient air.

Intuitive operation

The software menu of the Dräger Polytron 7000 was designed in partnership with our customers making it simple and easy to use. The large graphical display uses icons and plain text to show the status of the instrument, and guides the user through calibration and configuration. Calibration has been made even easier with the auto-calibration function.

Intelligent sensors

With over 30 different DrägerSensors to choose from, the Dräger Polytron 7000 is able to detect over 100 different gases. Specifically designed for the demanding requirements of a 24 hours a day, 365 days a year stationary gas detection system, the larger DrägerSensors are renowned for their long life times and superior performance. The embedded sensor memory contains information on gas, range, cross-sensitivities, calibration values, temperature compensation, speedy sensor warm-up, and sensor-vitality data. All this enables the use of pre-calibrated sensors, which makes the Dräger Polytron 7000 ideal for a virtually maintenance free transmitter.

Communication interfaces

With the Dräger Polytron 7000 the communication to the central control system can be selected between 4 to 20 mA, HART® field-bus or LONWORKS®. With the LONWORKS option, the Dräger Polytron 7000 can be integrated into any LONWORKS system architecture offering the advantage of reduced wiring cost and a reliable and flexible communication network. HART enables a simultaneous 4 to 20 mA signal and digital communica-

tion via the same single twisted pair line. Alternatively, up to eight transmitters can be daisy chained for operation on a single twisted pair connection in full digital mode.

Software options

A number of software dongles with different software functionality will customize the transmitter to specific application needs.

Sensor test dongle

With this dongle, the Dräger Polytron 7000 performs many patented sensor tests to ensure reliability and functionality of the sensor and the gas detection system.

Sensor diagnostic dongle

All sensors have a certain life time which can be affected by factors such as gas exposure, temperature exposure and the age of the sensor. Now, with the new sensor diagnostic function in the dongle (including Sensor Test), the stress and remaining life of the sensor is evaluated, and it is possible to predict and plan for a maintenance and replacement cycle.

Data dongle

Data logger and event logger options are implemented in this dongle, which stores gas values and events such as faults and alarms. Using an IR link with the PDA m515-Ex, the data can be downloaded and evaluated on a PC with the GasVision software. By pushing one button, a graphical 15 minute history of the gas concentration will be displayed on the transmitter screen, for quick evaluation of the current and past situation.

Dräger Polytron 7000

TECHNICAL DATA

Type	Intrinsically safe transmitter for electro-chemical sensors	
Gases and ranges	Toxic gases and oxygen, ranges user adjustable, see sensor data sheet	
Display	Large graphic display, 34 x 62 mm, 64 x 128 pixel 1.3" x 2.4"	
	Menu structure and messages in real text, 3 button navigation	
Output	Analog	4 to 20 mA
	Digital	HART®, LONWORKS®
	Warning signal, configurable	default: fault signal every 10 s for 1 s
	Maintenance signal	3.4 mA constant
	Fault signal	< 3.2 mA
Power supply	16.5 to 30 VDC; < 100 mW, 2-wire 3-wire for pump module* and relay module*	
Pump module*	Tubing up to 30 m / 100 ft. @ 0.5 l/min with 4 mm / 3/16" inner diameter	
Relay module*	Two alarm relays, one fault relay, SPDT, user programmable Rating 5 A 240 VAC, 5 A 24 VDC	
Ambient Conditions	Transmitter only, for sensors see separate sensor data sheet	
	Temperature	-40 to +65 °C / -40 to +150 °F
	Pressure	700 to 1300 hPa / 23.6 to 32.5 inch Hg
	Humidity	0 to 100 %RH, non condensing
Enclosure	GRP, IP 66/67, NEMA 4, M20 cable gland	
Size (H x W x D)	approx. 175 x 130 x 130 mm / 11" x 6" x 5.5"	
Weight	approx. 900 g / 2 lbs	
SIL Level	SIL 2 verified	
Approvals	ATEX	II 1G EEx ia IIC T6/T4, - 40 to + 40 / + 65 °C II 3G EEx nL IIC T6, - 25 to + 40 °C
	IEC	Ex ia IIC T6/T4, - 40 to + 40 / + 65 °C
	UL	Class I, Div 1, Group A, B, C, D Class II, Div 1, Group E, F, G
	CSA**	Class I, Div 1, Group A, B, C, D Ex ia IIC T6/T4, - 40 to + 40 / + 65 °C
	CE-mark	electromagnetic compatibility (Directive 89/336/EEC) low voltage (Directive 72/23/EEC, 93/68/EEC)

HART® is a registered trademark of the HART Communication Foundation

LONWORKS® is a registered trademark of the Echelon Corporation

*general purpose use only. The transmitter does not have any approval, but has the CE-mark when used with a pump or relay module

**pending

For complete consulting and planning of your gas detection system please contact our local Dräger Safety representative.

Dräger Polytron IR

The Dräger Polytron IR is an explosion proof infrared gas detector for continuous monitoring of combustible gases and vapours. With its stainless steel body and drift free optics this transmitter is built for the harshest offshore environments. Two models working with different wavelengths cover a broader range of detectable substances.



ST749-2006

Dräger Polytron IR:

Configurable gas detector for reliable detection of combustible gases and vapours.

Technical innovation

The new model type 340 extends the area of applications for the Dräger Polytron IR product line. The new wavelength of the Dräger Polytron IR type 340 offers detection of alkanes at an even higher sensitivity. The possible monitoring of cyclohexane presents one of various new options for gas detection resulting from this innovation.

With both transmitter models Dräger Polytron IR type 340 and type 334, Dräger Safety defines the status quo of measurement technology for continuous monitoring of ambient air regarding combustible gases and vapours. Dräger Polytron IR works based on the physical principle of infrared absorption. The innovative double compensated and non-focussing optics effectively compensate all temperature and ageing effects. With its many field proven components it sets the standard for all relevant measurement requirements. It is approved by certification that Dräger Polytron IR can be used for SIL 2 (safety integrity level) safety functions.

Configuration

New to the product family is the configurable measuring range for the Dräger Polytron IR transmitter: Type 334 offers 0 to 20 %LEL and up to 100 %LEL, alternatively 0 to 100 %v/v for methane. Type 340 is configurable from 5 to 100 %LEL. Configuration is menu guided and easy to perform, using a HART® hand-held terminal or laptop.

Calibration

For the easy calibration of the Dräger Polytron IR, only one gas needs to be selected from an internal list, and this gas can differ from the gas to be measured. All data will be converted automatically to the substance to be monitored. So, the intricate use of factors for cross sensitivity is no longer necessary. Thus for all Dräger Polytron IR transmitters there is only one calibration gas required, independent of the monitored substance.

Dräger Polytron IR

TECHNICAL DATA

Type	Explosion proof gas transmitter with infrared sensor technology	
Gases and ranges	Combustible gases and vapours:	0 to 5 ... 100 %LEL (depending on substance)
		0 to 350 ... ppm (depending on substance)
	Methane:	0 to 100 %v/v (type 334 only)
Long term stability (drift)	< 2 %LEL (measuring range 0 to 100 %LEL methane) / 2 years	
Repeatability	< 2 %LEL (measuring range 0 to 100 %LEL methane)	
Response time t0...90	< 5 seconds	
Output signals analog	4 to 20 mA	
Output signals digital	HART®, RS 485	
Preventive maintenance function	2 mA in case of dirty optics	
Failure signals	3 mA (configuration ex factory)	
	< 1.2 mA (when preventive maintenance function activated)	
	Signals for warning and maintenance configurable	
Power supply	15 to 30 VDC, < 5 W, 3-wire	
Ambient conditions	Temperature	-40 to +65 °C / -40 to +150 °F
	Pressure	700 to 1300 hPa / 23.6 to 32.5 inch Hg
	Humidity	0 to 100 % r.h., non-condensing
Enclosure	IP 66 and IP 67, NEMA 4 and 7	
Size (H x W x D)	125 mm x 180 mm x 155 mm / 4.9 " x 7.1 " x 6.1 "	
Weight	3.1 kg	
Approvals	UL, CSA Class 1, Div 1, Groups B, C, D	
	ATEX	II 2G EEx de [ia] IIC T5
		II 2D IP 6X T100°C EN 50281-1-1
	Explosion protection and performance approval	
	EN 61779-1	
	EN 61779-4	
	EN 50271	
	CE-mark: electromagnetic compatibility (Directive 89/336/EEC)	
	SIL 2 (safety integrity level) certified	

For complete consulting and planning of your gas detection system please contact our local Dräger Safety representative.

Dräger Flame 2300

The Dräger Flame 2300 is an explosion proof combined UVIR flame detector used for the detection of hydrocarbon based fires. The detector provides flexibility with its numerous output modes, and advanced design features ensure reliability in the detection of fires whilst at the same time providing excellent immunity to potential false alarm sources.

Simple installation and commissioning

Installation is simple! The detector is easily installed with a stainless steel mounting bracket; this can be rotated to ensure optimum positioning of the detector in relation to the potential fire source. Angular markings allow the positioning angles of the detector to be recorded for future reference.

Detector flexibility

As well as a 4 to 20 mA output and three relays, an optional RS 485 output is also available, which can be multi-dropped to a central location. This provides a number of options for detector monitoring and the triggering of the necessary control action upon the detection of a fire.

Automatic and manual optics checks

Automatic checks of the detector electronics and optics ensure no fault goes undetected. Additionally the test can be triggered manually at any time.

Isolated 4 to 20 mA as standard

Complete flexibility enables the detector to be operated from a separate power supply (as a 4 wire device) or as a 3 wire device where there is no requirement for an isolated output.

Easily visible status LED

A tri-coloured LED which is visible at the front of the detector provides a simple status indication to personnel in close proximity to the detector. Green indicates normal operation; yellow indicates a fault and red indicates the presence of radiation.

False alarm immunity

The Dräger Flame 2300 provides the highest level of false alarm immunity. This is because the detector requires both IR and UV sensors to alarm before the detector will itself output an alarm condition and such action ensures that false alarms are all but non-existent.

Worldwide approvals

The Dräger Flame 2300 can be used worldwide with the following approvals: ATEX, IECEx, FM and CSA.

ST-341-2004



Dräger Flame 2300:

Explosion proof combined UVIR flame detector for hydrocarbon based fires.

Dräger Flame 2300

TECHNICAL DATA

Type	Explosion proof UVIR flame detector for hydrocarbon based fires	
Spectral response	IR 4.2 to 4.7 micron, UV 0.185 to 0.26 micron	
Field of view	Horizontal 90°, vertical 90°	
Sensitivity	0.1 m² gasoline fire at 18 metres, 1 sq. foot fire at 60 feet	
Response time t90	3.3 seconds, typical; configurable up to 30 seconds	
Signal output	Fault	0 mA
	Optics/electronics check failure	2 mA
	Normal operation	4 mA
	IR presence	8 mA
	UV presence	12 mA
	Fire pre-warning	16 mA
	Fire	20 mA (factory configurable for latching/non-latching alarm)
	3 relays for fault, alarm and accessory, ratings 125 VAC, 0.5 A; 30 VDC, 2 A optional RS 485	
Supply voltage	18 to 32 VDC, current consumption 175 mA quiescent state at 24 VDC	
Ambient conditions	Temperature	- 40 to + 70 °C, - 40 to + 158 °F
	Pressure	915 to 1055 hPa, 27.9 to 31.2 inch of Hg
	Humidity	0 to 99 % r.h., non condensing
Enclosure	IP 66 / NEMA 4X	
Cable entry	M20, M25, 1/2" NPT or 3/4" NPT	
Size (L x D, approx.)	275 mm x 155 mm, 10.8" x 6.1"	
Weight (approx.)	3.5 kg, 7.7 lbs	
Approvals	ATEX	II 2G EEx d IIC T6/T5 ; - 50 ≤ Tamb ≤ + 60 / + 70 °C
	IECEX	Ex d IIC T6/T5 ; - 50 ≤ Tamb ≤ + 60 / + 70 °C
	FM/CSA	Class I, Groups A, B, C, D
		Class I, Zone 1, Groups IIA, IIB & IIC Ex d II C; T6/T5; - 40 ≤ Tamb ≤ + 60 / + 70°C

For complete consulting and planning of your gas detection system please contact our local Dräger Safety representative.

Dräger Alco-Check

Excessive alcohol consumption restricts driving capability. The Dräger Alco-Check offers customers the chance to measure their own blood alcohol levels at home or during a journey. This reliable, quick test indicates the level of risk undertaken whilst driving.



Dräger Alco-Check:
Personal risk indicator for
the private sector.

Proven and reliable

The Dräger Alco-Check is an advanced development of the proven Alcotest Tube used by the police for years in many countries. The principle is based on the colour change of the material in the tube caused by the alcohol content of exhaled air.

ORDER INFORMATION

Display limit at 0.5‰

Dräger Alco-Check (Single package)	64 00 731
Dräger Alco-Check (Fill material without package)	64 00 901

Display limit at 0.8‰

Dräger Alco-Check (Single package)	64 00 700
Dräger Alco-Check (Fill material without single package)	64 00 441

Dräger Alcotest Tubes

Dräger Alcotest Tubes are an easy-to-use and reliable system for measuring breath alcohol content. For more than 50 years the breath alcohol test using Alcotest tubes has been proven in the field. Traffic police all over the world as well as users in the workplace appreciate this quick method. It is quickly made ready for use and provides clear results.



ST-2814-96

Dräger Alcotest Tubes:

Rapid system for measuring the 0.8 limit during a breath test.

Simple, reliable, low cost

The Alcotest system consists of an Alcotest tube and a breathing bag. When the subject blows the pre-set volume of exhaled air through the tube and into the breathing bag, the breath alcohol specific material reacts and changes colour from yellow to green, depending on the alcohol concentration of the exhaled air.

A scale marked on the glass tube shows clearly whether the alcohol concentration of the exhaled air is below the pre-set limit. The system costs are exceptionally low without any maintenance costs.

ORDER INFORMATION

Dräger Alcotest Tube 0.5 ‰	CH 00 222
consisting of 10 Alcotest Tubes, 10 Mouthpieces, 1 Breathing bag in a plastic box with a device to break off top of tube	
Dräger Alcotest Tube 0.8 ‰	CH 00 237
consisting of 10 Alcotest Tubes, 10 Mouthpieces, 1 Breathing bag in a plastic box with a device to break off top of tube	
Dräger Alcotest Tube 0.8 ‰	CH 00 225
consisting of 3 Alcotest Tubes, 3 Mouthpieces, 1 Breathing bag in a plastic box with a device to break off top of tube	

Dräger Alcotest 6510

The Dräger Alcotest 6510 offers professional users precise and quick breath alcohol analysis in a user-friendly and compact form. Thanks to its wide range of possible configurations, the hand-held instrument can be easily adapted to meet different international regulations and guidelines. Since the Dräger Alcotest 6510 provides intuitive operation, it is easy to use and precise measurement results can be obtained within a very short period of time.



ST-2018-2004

Dräger Alcotest 6510:

Variety of configuration possibilities, quick and accurate analysis.

Safe and easy to use

Automatic processing of the sample and calibration makes the instrument easier to use. All measuring functions are controlled by only one key. The menu can be navigated by two further menu keys. The mouthpiece can be fitted securely and quickly even in darkness.

Quick preparation for use

The very latest in electronics technology ensures that the instrument is ready for use in no time at all.

Quick and precise analysis

The 1/4" Dräger Sensor with optimal gas dynamics measures specifically alcohol. Even at high alcohol concentrations direct paths in the gas channels, quick pneumatic components and the short response time of the sensor guarantee an immediate display of the test results.

Low energy consumption

Two Mignon batteries (AA batteries) allow more than 1500 tests. The Dräger Alcotest 6510 also allows the use of NiMH batteries which can be charged inside the instrument.

"Slide'n'click" mouthpiece

The shape of the mouthpiece means you will intuitively fit it correctly. An air outlet which

cannot be obstructed prevents any manipulation when the breath sample is given. A spacer on the mouthpiece prevents the test subject's lips from coming into contact with the instrument's housing, and at the same time may be used as a mouthpiece ejector. The individually packaged mouthpieces can be attached to the instrument easily and hygienically.

Ergonomic design

Thanks to its small size the Dräger Alcotest 6510 can also be carried in a shirt pocket. Its ergonomic design permits the instrument to be used equally comfortably by left and right handed people. The distance between the grip and the mouthpiece ensures that there is ample space between the operator's hand and the mouth of the person being tested.

Optimal use

The instrument is read by means of an illuminated display screen with easy to understand full text messages. A light diode with various colours together with acoustic signals supports the display.

Integrated data logger

The last 10 test results can be stored in the memory with a test number and can be called up from the memory by using the menu keys.

Dräger Alcotest 6510

TECHNICAL DATA

Principle of measurement	Electro-chemical DrägerSensor in 1/4" technology; alcohol-specific
Measurement range	0 to 2.5 mg/L; if measurement range limit is exceeded, a message is displayed
Sampling	Standard: automatic sampling when minimum volume is reached Passive sampling without mouthpiece or manual initiation of sampling possible
Ready for use	approx. 6 s after switching on
Display of measurement result	after approx. 3 s (at 0 mg/L); after approx. 10 s (at 0.5 mg/L, room temperature)
Operating temperature	-5 to +50 °C / 23 to 122 °F
Humidity	10 to 100 % r.h., non-condensing
Ambient pressure	600 to 1,400 hPa / 17.7 to 41.3 inch Hg
Display	Graphic backlit LCD display; 41 mm x 24 mm / 1.6" x 0.9" (128 x 64 pixels)
LED	3-colour, to support display and warning messages
Audible signal	Different signal tones to support display messages and warnings
Data logger	Storage of last 10 tests with test numbers
Power supply	Two AA batteries. Charge status displayed approx. 1,500 breath tests can be performed on one set of batteries
Mouthpiece adaption	Slide'n'click mouthpiece attachment. Can be fitted for right or left orientation
Mouthpiece	Hygienically, individually packaged, with tamper-proof, non-obstructable air outlet, mouthpiece ejector and spacer between mouth and instrument housing
Operating concept	Measurement functions can be performed using just one key; menu navigation via two menu keys
Calibration	Wet gas or dry gas calibration
Housing	Impact resistant ABS/PC
Size, weight	approx. 140 mm x 70 mm x 30 mm / 5.5" x 2.8" x 1.2", approx. 195 g / 0.5 lbs, incl. batteries
Instrument configuration	Direct menu-guided configuration of instrument settings (PIN required) No additional PC software needed
Vibration and shock	Conforms to EN 60068-2-6, EN 60068-2-29
CE marking	Directive 89/336/EC (electromagnetic compatibility)

ORDER INFORMATION

Dräger Alcotest 6510 (instrument, 3 mouthpieces, 2 batteries, hand strap, in plastic case)	83 17 900
Mouthpiece (Slide'n'click)	
Package with 100 pieces	68 10 690
Package with 250 pieces	68 10 825
Package with 1,000 pieces	68 10 830
Black leather pouch (belt fastening)	63 17 911
Yellow leather pouch (instrument can be operated in the pocket, compartment for 4 to 5 mouthpieces, no belt fastening).	63 17 931

Dräger Alcotest 6810

The Dräger Alcotest 6810 offers professional users precise and quick breath alcohol analysis in a user-friendly and compact form. Thanks to its wide range of possible configurations, the hand-held instrument can be easily adapted to meet different international regulations and guidelines. Since the Dräger Alcotest 6810 offers intuitive operation, it is easy to use and precise measurement results can be obtained within a very short period of time.



ST-1686-2005

Dräger Alcotest 6810:

Quick and accurate analysis, with optical interface for data transfer.

Safe and easy to use

Automatic sampling and calibration processes make the instrument easy to use. All measurement functions are controlled via a single key, while menu navigation is done by two menu keys. The special way the mouthpieces are designed means they can be fitted quickly and securely even in poor light conditions.

Rapid ready for use

The very latest in electronics technology ensures that the instrument is ready for use in no time at all.

Quick and precise analysis

The 1/4" DrägerSensor with its optimised gas dynamics measures specifically alcohol. Even at high alcohol concentrations direct gas paths, fast pneumatic components and short reaction times of the sensor ensure the measurement result will be displayed quickly.

Low energy consumption

More than 1,500 breath alcohol tests can be conducted on just two Mignon batteries (AA size). The Dräger Alcotest 6810 also allows the use of NiMH batteries which can be charged inside the instrument.

Practical design

Thanks to its compact dimensions, the Dräger Alcotest 6810 even fits into a shirt pocket. The ergonomic design makes the instrument equally easy to use for right- and

left-handed people. The separation of the grip area and the mouthpiece automatically ensures a certain distance between the hand of the operator and the mouth of the person to be tested.

"Slide'n'click" mouthpiece

The shape of the mouthpiece means you will intuitively fit it correctly. An air outlet which cannot be obstructed prevents any manipulation when the breath sample is given. The individually packaged mouthpieces can be attached to the instrument easily and hygienically.

Optimised instrument interaction

Interaction between operator and instrument takes place via the backlit display with its easily comprehensible plain text messages. A light emitting diode with different colours and audible signals supports the display.

Documentation data logger

The Dräger Alcotest 6810 has an optical interface to transfer data for generating a test protocol on a printer. The last 250 measurement results with their respective test numbers, date and time are stored in the data logger. Individual results can be called up from the log by pressing the menu keys and/or transferred to a PC.

Dräger Alcotest 6810

TECHNICAL DATA

Principle of measurement	Electro-chemical DrägerSensor in 1/4" technology; alcohol-specific
Measurement range	0 to 2.5 mg/L; if measurement range limit is exceeded, a message is displayed
Sampling	Standard: automatic sampling when minimum volume is reached Passive sampling without mouthpiece or manual initiation of sampling possible
Ready for use	Approx. 6 s after switching on
Display of measurement result	After approx. 3 s (at 0 mg/L); after approx. 10 s (at 0.5 mg/L, room temperature)
Operating temperature	-5 to +50 °C / 23 to 122 °F
Display	Graphic backlit LCD display; 41 mm x 24 mm / 1.6" x 0.9" (128 x 64 pixels)
LED	3-colour, to support display and warning messages/optical interface for printer
Audible signal	Different signal tones to support display messages and warnings
Data logger	Storage of last 250 tests with test numbers, date and time
Power supply formed	Two AA alkaline or NiMH batteries. Charge status displayed, approx. 1,500 tests can be performed on one set of alkaline batteries. Internal charging of NiMH batteries possible.
Calibration	Wet gas or dry gas calibration
Size, weight	Approx. 140 mm x 70 mm x 30 mm / 5.5" x 2.8" x 1.2", approx. 195 g / 0.5 lbs, incl. batteries
Instrument configuration	Direct menu-guided configuration of instrument settings (PIN required) No additional PC software needed
Vibration and shock	Conforms to EN 60068-2-6, EN 60068-2-29
CE marking	Directive 89/336/EC (electromagnetic compatibility)
Data interfaces	RS 232 for connection to a PC; optical interface to the Alcotest 7410 printer and/or to the Dräger Mobile Printer

ORDER INFORMATION

Dräger Alcotest 6810 (incl. 3 mouthpieces, 2 batteries, wrist strap, plastic case)	83 18 570
Dräger Alcotest mouthpieces/slide'n'click (100 pcs.)	68 10 690
Dräger Alcotest mouthpieces/slide'n'click with spit trap and non-return valve (100 pcs.)	on request
Accu-Set Dräger Alcotest 6810 (NiMH rechargeable batteries and cover)	83 18 565
Power supply 800 mA, 11 V, for charging NiMH batteries	83 16 991
PC connecting cable RS 232/9	83 17 593
Software AlcoView 6810 (to read out data)	83 17 915

Dräger Alcotest 6810 med

The Dräger Alcotest 6810 med is a special version of the proven Dräger Alcotest series. It has been designed for diagnostic applications, where the CE marking for medical products is necessary. In addition to the electro-chemical DrägerSensors, high quality and proven reliability, the Dräger Alcotest 6810 med offers a variety of features that ease daily practices within the medical field.



ST-1687-2005

Dräger Alcotest 6810 med:
Specially designed for medical usage.

Application areas

The Dräger Alcotest 6810 med has been adapted to determine breath alcohol concentrations especially in medical applications. It may be used, for example, to diagnose vascular injuries (about others in the urology during transurethral resections of the prostate) after previous application of an ethanol containing rinsing solution. It is also used for testing patients for previous alcohol consumption at the emergency reception area or before methadone substitution.

Features

The speed and long term stability of the electro-chemical DrägerSensor leads to a short waiting time for the first measurement after the instrument has been turned on, a fast determination of the measured value and a small standard deviation. The illuminated instrument display with information such as test number, date, time, measurement result and error messages as well as the coloured LED and acoustical alarms guide the operator easily through the use of the instrument.

Sampling

During the automatic measurement, which is activated by the breath sample, the breath flow is monitored and the minimum volume required is adjusted to ensure deep lung air is taken. The manually activated measurement makes measurements possible even with people who are not able to deliver a breath sample intentionally.

Data storage

The integrated data memory can store 250 measurement results. Via the interface the results can be transferred into a PC after the measurement.

CE marking as Medical Device

The Dräger Alcotest 6810 med has a CE marking according to the EU Directive 93/42/EEC for Medical Devices. According to this legislation, this CE marking is necessary for all applications involving "diagnosis, prevention, monitoring, treatment or alleviation of disease". The Dräger Alcotest 6810 med fulfils these requirements for applications such as during operations, at emergency reception areas or during methadone substitution.

TECHNICAL DATA

Measuring principle	Electro-chemical sensor	
Measurement range	0 to 2.5 mg/L	
Sampling conditions (automatic measurement)	At the end of the breath sample	
	Breath flow:	> 3 L/min
	Breath volume:	> 0.3 L
Measurement accuracy (standard deviation with an ethanol standard)	0 to 0.5 mg/L:	± 0.008 mg/L
	> 0.5 mg/L:	± 1.7 % of measured value
Sensitivity drift	Typically 0.6 % of measured value per month	
Cross sensitivity to anaesthetic gases	None	
Calibration interval	6 months	
Functional test	Weekly (recommended)	
Dimensions (W x H x D)	80 mm x 140 mm x 35 mm	
Weight	Approx. 195 g	

Dräger Alcotest 6810 med

Power supply	2 x 1.5 V Type Alkaline (Mignon, LR6, AA), approx. 1500 measurements at room temperature, or 2 x 1.2 V NiMH rechargeable batteries (Mignon, LR6, AA)	
Interface	RS 232 interface for data transmission to a PC	
Classification	Measuring instrument:	Class I with measuring function
as per Directive 93/42/EEC, Annex IX	Mouthpieces:	Class I
UMDNS-Code	17-475	

ORDER INFORMATION

Dräger Alcotest 6810 med (Measuring instrument, 3 mouthpieces, batteries, hand strap and case)	83 19 080
Mouthpieces (100 pieces) with non-return valve	68 11 055
Set rechargeable battery, for use with rechargeable NiMH batteries (special battery cover, 2 rechargeable NiMH batteries)	83 18 565
Power supply for charging NiMH batteries inside of the Dräger Alcotest 6810 med	83 16 991
Ethanol standard solution 1.21 g/L for functional test (500 mL)	67 28 838
AlcoView, PC program for communication with the Dräger Alcotest 6810 med	83 17 915
PC connection cable	83 17 573

Dräger Alcotest 7410 Plus

Easy to use, quick and accurate – reasons which have made the Dräger Alcotest 7410 the world standard for breath alcohol measurement instruments. The long term stable Dräger Sensors provide reliable and quick results which are shown on an illuminated three digit display.

Easy to operate

The intuitive operation via only one key and the easily read monitoring values guarantee a high level of user friendliness and safe execution of the tests. The Dräger Alcotest 7410 Plus is ready for use in the shortest time and is equipped with a real time clock (date / time).

Passive sampling

By triggering the operator key a qualitative determination of breath alcohol is possible without any participation of the subject.

Flexible power supply

Optionally alkaline batteries, rechargeable batteries or 12 V vehicle connection.

Integrated data logger

More than 9,700 results together with respective times can be stored and read by activating the operating key on the instrument. The user can also choose from various statistical options.

Accurate results

The electro-chemical Dräger sensor combines the highest degree of sensitivity with fast response times and instrument longevity. It guarantees an immediate display of monitored values together with slight standard deviations. Its special long term stability permits a calibration interval of more than six months.

ST-482-2001



Dräger Alcotest 7410 Plus:
Breath alcohol values –
quick and accurate.

For technical data and order information see Dräger Alcotest 7410 Plus RS

Dräger Alcotest 7410 Plus RS

The Dräger Alcotest 7410 Plus RS offers all the advantages of the proven and recognised Dräger Alcotest 7410 family for professional application. It enhances the performance spectrum of the Dräger Alcotest 7410 Plus by introduction of an integrated data interface and thus enables perfect documentation and evaluation on a PC.

ST-482-2001



Dräger Alcotest 7410 Plus RS:
Professional measurement and documentation.

Data interface

The Dräger Alcotest 7410 Plus RS facilitates the input of person specific test data and its evaluation or management via Dräger VIEW 2000 software. Data is transferred to a PC via an integrated interface.

Accurate results

The electro-chemical Dräger sensor guarantees quick and accurate results, frequency of use as well as minimal standard deviation. Its special long term stability permits calibration intervals of more than six months.

Passive sampling

By activating the operator key a qualitative appraisal of the breath alcohol is possible – even without any participation of the subject.

TECHNICAL DATA

Monitoring principle	Electro-chemical sensor	
Measuring units	mg/l, ‰ (other units adjustable)	
Detection range	0.00 to 1.50 mg/L; 0.00 to 3,00 ‰	
Display range	0.00 to 9,99 mg/L; 0.00 to 9,9 at ambient temperature	
Ambient temperature	During Operation	– 5 to 45 °C
	(– 20 °C for max. 30 min after previous storage above 0 °C)	
Sampling	During Storage	– 40 to 65 °C
	Blowing Time	4 to 12 s (according to blow strength)
	Flow	> 6 L/min
	Volume	> 1.2 L (adjustable)
Measuring accuracy	0 to 0.5 mg/L	± 0.03 mg/L
(max. error of repetition with ethanol standard)	0 to 1.0 ‰	± 0.05 ‰
	> 0.5 mg/L	± 5 % of measured value
	> 1.0 ‰	± 5 % of measured value
Sensitivity drift	typically 0.6 % of measure values / month	
Waiting time before use	1. measurement	approx. 15 s
	After calculation of value within range e.g.:	
	to 0.19 mg/L:	10 s
	> 0.95 mg/L:	90 s

Dräger Alcotest 7410 Plus RS

Calibration interval	6 months (recommended, can be longer depending on degree of accuracy)
Dimension (W x H x D)	70 mm x 230 mm x 34 mm
Weight	approx. 500 g

ORDER INFORMATION

Dräger Alcotest 7410 ^{Plus}	(incl. power supply unit)	83 13 630
Dräger Alcotest 7410 ^{Plus} RS	(incl. power supply unit)	83 13 690
Power supply unit:	NiCd battery	83 11 770
	NiMH battery	83 17 108
Battery power supply unit		83 15 690
Vehicle connection 12 V		83 11 790
Mouthpieces (25 pcs.):	with non-return valve	68 05 703
	without non-return valve	68 05 700
Charging Station 230 V		83 12 590
PC-Software „View 2000“		83 15 140
PC-lead (9-pin RS 232 Interface)		83 13 250
Dräger Alcotest 7410 Printer		83 15 950
Dräger Alcotest 7410 carrying case		83 14 210

Dräger Alcotest 7410 Plus com

Dräger Safety's Alcotest 7410 Plus com offers an easy solution to carry out preliminary tests and was especially designed to meet the requirements of local authorities. In addition to the exceptional monitoring quality of its electro-chemical sensor and its proven reliability in the field it also offers a variety of properties which are beneficial when carrying out traffic control tasks. The instrument is further based upon the functionality of the Dräger Alcotest 7410 Plus RS.



ST-196-2004

Dräger Alcotest 7410 Plus com:

Professional measurement and documentation.

Full text display

With its full text display and easy-to-read messages the Dräger Alcotest 7410 Plus com guarantees a clear and simple guide to the whole monitoring process. Light emitting diodes show the correct sequence of monitoring operations as well as the state of the instrument. The Dräger Alcotest 7410 Plus com is equipped with a real-time clock and also provides data with regard to the charge state. It also issues a warning when only 100 elements of test data can be stored.

Practical functionality

The Dräger Alcotest 7410 Plus com is ready for use within a few seconds. It automatically adjusts the volume of

air to the physiological condition of the subject. Passive sampling is initiated by pressure of a function key.

Flexible power supply

Power is provided by alkaline batteries, rechargeable batteries or a 12 volt connection to a vehicle.

Extended data logger

All measured results are stored together with date, time, volume of breath and duration. Using a data interface (RS232) in conjunction with Dräger VIEW 2000 software, the data can easily be transferred to a PC for documentation and statistic evaluation.

TECHNICAL DATA

Detection range	0.00 to 1.50 mg/L	
Measurement unit	mg/L (other units can be used)	
Display range	0.00 to 9.99 mg/L	
Ambient temperature	During Operation	-5 to 45 °C (-20 °C for max. 30 min after previous storage at over 0°C)
	During Storage	-40 to 65 °C
Sampling	Blowing time	4 to 12 s (depending on blow strength)
	Breath flow	> 6 L/min
	Volume	> 1.2 L
Accuracy (max. repeatability error with ethanol standard)	0.00 to 0.50 mg/L	± 0.03 mg/L
	> 0.50 mg/L	± 5 % of measured value
Waiting time for use	1. measurement	approx. 15 s
	after calculation of a value up to	
	0.19 mg/L	10 s
	In range > 0.95 mg/L	90 s
Calibration interval	Depends on the required degree of accuracy or current regulations	
Dimensions (W x H x D)	70 mm x 230 mm x 34 mm	
Weight	approx. 500 g	

Dräger Alcotest 7410 Plus com

ORDER INFORMATION

Dräger Alcotest 7410 Plus com incl. power supply unit	83 15 700
Power supply unit: Rechargeable battery (NiCd)	83 11 770
Rechargeable battery (NiMH)	83 17 108
Alkaline battery	83 15 690
Vehicle 12 volt power supply	83 11 790
Mouthpieces (25 pcs.) with non-return valve	68 05 703
Charger Station 230 V	83 12 590
PC-Software VIEW 2000	83 15 140
PC-Cable connection RS 232 9/3	83 13 250
Dräger Alcotest 7410 Printer	83 15 950

Dräger Alcotest 7110 Mk III

The Dräger Alcotest 7110 Mk III is technically the most highly developed detection instrument for accurate and secure identification of breath alcohol concentrations. It can be customised to meet country-specific requirements, thus complying with the most stringent requirements all over the world. The Dräger Alcotest 7110 Evidential with OIML R 126 requirements, the German version, is authorised as an aid to monitoring highway traffic by Physikalisch-Technische Bundesanstalt (PTB). Additionally, approvals exist for US, France, Italy, Spain, Austria etc.



ST-619-99

Dräger Alcotest 7110 Evidential:
Authorised for use in courts.

Breath analysis used by the courts

Following the introduction of statutory requirements, the Dräger Alcotest 7110 was developed to meet the stringent requirements of a breath alcohol analysis to be submitted to courts. The Dräger Alcotest 7110 provides a measuring cycle to identify breath alcohol concentrations in accordance with OIML R 126 requirements. The instrument is designed for use in police stations as well as in vehicles.

Duplicate measurements

The measuring cycle can be configured to two separate measurements of a subject's sample. Only if both separate measurements are successful and the results vary within very close tolerances, will the instrument display the final result of the measurements.

Breath temperature option influence

Optionally, the temperature of the measured breath sample can be measured and the result of the breath alcohol concentration is corrected to a reference temperature in order to prevent the influence of body temperature (e.g. fever) or breathing technique (hyper- or hypoventilation).

Two measuring systems: "Double System"

The Dräger Alcotest 7110 can be equipped additionally with a second analytical system. Then the Dräger Alcotest 7110 identifies breath alcohol concentrations with two different and independent measuring systems; an infrared optical and an electro-chemical measurement system sensor, which monitor each other. Both sensors are outstanding for their exceptionally selective measurement of ethanol. If the results of both sensors agree within stringent limits, then the measurement is accepted. By using two measurement systems of different analytical specifications any possible interfering substances are recognised in the breath sample and their influence is eliminated.

Simple operation by menu controlled measuring sequence.

After being switched on the instrument carries out a self test. All necessary operating activities as well as error reports are displayed on the screen in the form of short and clear messages. Subject data is entered via a keyboard. If the alcohol concentration measurement was carried out correctly the integrated printer prints the final results.

Dräger Alcotest 7110 Mk III

ORDER INFORMATION

Instrument	
Dräger Alcotest 7110 Mk III Standard IR	83 15 080
consisting of Dräger Alcotest 7110 complete, 1 package mouthpieces, spare ribbon tape and spare paper roll	
Dräger Alcotest 7110 Mk III Standard IR+EC	83 15 800
such as Dräger Alcotest 7110 Standard IR, but with infrared optical and electro-chemical sensor "Double System"	
Dräger Alcotest 7110 Evidential	on request
complete with keypad "Compact" QWERTZ, mouthpiece, spare coloured tape and spare paper roll, power supply	
Dräger Alcotest 7110 Mouthpieces	
Dräger Alcotest 7110/ 7410 Mouthpieces with non-return valve	68 05 703
25 pcs., individually packed with saliva trap and non-return valve	
Dräger Alcotest 7110/ 7410 Mouthpieces with non-return valve	68 10 611
100 pcs., such as 68 05 703 individually packed, in lots of 25	
Dräger Alcotest 7110/ 7410 Mouthpieces with non-return valve	68 10 610
250 pcs., such as 68 10 611 individually packed, bound together in lots of 25	
Dräger Alcotest 7110 Mk III Mouthpieces AT (for Dräger Alcotest 7110 Evidential)	68 09 501
25 pcs., individually packed	
Dräger Alcotest 7110 Accessories	
Keypad "compact" ("QWERTZ"), German Dimensions: 282 mm x 132 mm x 24 mm, for PS/2 and DIN Connection	83 15 095
Keypad "compact" ("QWERTY"), English Dimensions: 282 mm x 132 mm x 24 mm, for PS/2 and DIN Connection	83 15 497
Keypad "compact" ("AZERTY"), French Dimensions: 282 mm x 132 mm x 24 mm, for PS/2 and DIN Connection	83 15 142
Paper roll for printer 5 pcs., duplicating paper	83 15 093
Paper roll for printer 5 pcs.	83 15 58
Printer ribbon cassette for internal printer	81 00 284
Dräger Alcotest 7110 vehicle accessories	
12 V DC-vehicle connection cable for Dräger Alcotest 7110 (IR + IR EC)	83 12 641
for vehicle instrument panel or cigarette lighter - (2 m long)	
12 V DC-vehicle connection cable for Dräger Alcotest 7110 Evidential	83 15 103
with ferrite, for vehicle plug adapter or cigarette lighter.	
Vehicle bracket Dräger Alcotest 7110	83 13 598
Bracket to secure Dräger Alcotest 7110 im KFZ	
Holder for Dräger Alcotest 7110 vehicle bracket	83 13 599
Connection between Dräger Alcotest 7110 and vehicle bracket for Dräger Alcotest 7110	

Dräger Alcotest 9510

The Dräger Alcotest 9510 features a new ergonomic design, while continuing with the Dräger tradition of high dependability products. The sensor technology delivers precise measurement results of breath alcohol concentration for professional users. The big display with touchscreen offers intuitive operation and a guided data input with complete text messages. Since the Dräger Alcotest 9510 offers a wide range of communication options, it is easy to connect with a central computer or other devices by various interfaces.



ST-421-2006

Dräger Alcotest 9510:

The new definition of evidential breath test instruments. More user friendliness, more compatibility, more possibilities.

Display

The high resolution touch screen provides clear and complete text messages for easy operation.

Data input

For an easy data input the user may choose between an external USB keyboard or the virtual keyboard on the touchscreen.

Printer

The very quiet and reliable thermal printer delivers a fast, easy-to-read and high class document printout. It needs no toner, printer cartridge or ink to operate and its low maintenance costs along with the extended lifetime of the thermal head are very user-friendly.

Sampling

The long, flexible and heated breath hose eliminates condensation and allows comfortable operation for both the subject and the operator. The removable mouthpiece enables a hygienic contact between subject and instrument.

Easy handling

An intuitive user interface guides the operator through test and maintenance.

Dual sensor technology

The highly developed infrared sensor represents the most significant advancement in IR breath analysis in 20 years and is specific to alcohol in the breath of a subject. The optionally available dual sensor technology, consisting of this accurate IR sensor plus a Dräger Fuel Cell, guarantees precise, alcohol specific and reliable measurement results.

For specifications please contact your local Dräger Safety sales organisation.

Dräger Interlock XT

With the Dräger Interlock XT instrument Dräger Safety contributes to road traffic safety and sets new standards with its vehicle immobiliser. Accidents due to alcohol consumption can be avoided using Dräger Interlock XT. In addition long term changes in drinking attitudes may be an additional benefit.



ST-182-2005

Dräger Interlock XT:

Breath alcohol controlled vehicle immobilisation promotes increased safety on the roads.

Principle

After a positive breath test the Dräger Interlock XT installed in a vehicle prevents a drunk driver from starting the car.

Simple installation

The Dräger Interlock XT essentially consists of two components: the breath alcohol measuring instrument with a measuring system and display which is situated inside the vehicle as well as the control unit which is normally fitted under the dashboard. To install the Dräger Interlock XT the power feed from the vehicle starter switch to the starter relay is interrupted. After switching on the ignition switch the Interlock calls for a breath sample. The measurement result of the breath alcohol concentration decides whether the vehicle starter can be energised and the vehicle started.

High level of operational safety

The method of installation ensures that Dräger Interlock XT is only involved in the starting procedure and has no influence once the engine is running or the vehicle is moving under power. The instrument is also tamper-proof.

Reliable measurements

The Dräger Interlock XT detects breath alcohol concentrations by means of its

electro-chemical sensors which only reacts specifically to alcohol. In this way false measurement results which can occur due to the presence of acetone, produced by diabetics or people on starvation diets, are avoided. Apart from its excellent measuring capabilities the DrägerSensor is outstanding due to its long term stability and long calibration intervals.

Quickly ready for use

When developing the Dräger Interlock XT great emphasis was put on the instrument being quickly ready for use. Since the instrument operates perfectly under extreme temperature conditions the suffix XT was added to its name which stands for "eXtended Temperature".

Integrated data logger

All results are recorded in the instrument for later evaluation.

Many applications ensure safety on the road

A preventive installation in vehicles operated by transport companies such as dangerous goods transporters, heavy duty lorries, buses or taxis can prevent accidents, promote a better company image as well as providing a higher feeling of safety on behalf of the customer. When installed in private vehicles the instrument helps to overcome alcohol problems.

Dräger Interlock XT

TECHNICAL DATA

Measuring principle	Electro-chemical sensor	
Ambient conditions for operation	Temperature	–40 to 85 °C
	Pressure	600 to 1100 hPa,
	No influence of changes in altitude on measurement results.	
Sensitivity drift	typically 1 % of measured value / month	
Ready for use	< 20 sec. (over 20 °C)	
	< 3 min. (at –40 °C)	
Display	Graphic LC-Display on handset with complete text messages	
Calibration interval	typically 6 months	
Data logger	in central unit, for more than 30,000 events	
Dimensions (H x W x D)	Handset	approx. 150 mm x 70 mm x 40 mm
	Control unit	approx. 115 mm x 105 mm x 40 mm
Weight	Handset	approx. 175 g
	Control unit	approx. 320 g
Voltage supply	12 V	
	The output relay may switch up to 48 volts; a 12 volts supply is required for the instrument supply.	
Relay for starter relay cable	< 16 A, continuous	
	< 40 A, peak	
Current consumption	< 2 A, maximum	
	< 20 mA, on stand-by	
Approvals	Radio interference	
	(Directive 95/54/EC and ECE Regulation No.10)	
	General German Operating Permission	

ORDER INFORMATION

Dräger Interlock XT	83 16 200
Breath alcohol controlled immobiliser (handset and control unit) for installation in vehicles, mouthpieces (5 pcs.) and installation accessories	
Mouthpieces (5 pcs.) individually packed	68 10 478
Mouthpieces (300 pcs.) individually packed	68 11 325
Mouthpiece adapter (1000 pcs.), 20 in each bag	68 11 483

Dräger Alcotest 7410 Printer

Small and mobile: The Dräger Alcotest 7410 Printer makes it possible to print out exact breath alcohol values in a report on site so that the results are available in hard copy.



1-211-01

Dräger Alcotest 7410 Printer:
For on-site reports.

On-site report

The Dräger Alcotest 7410 product family makes the breath test and archiving easier for the user i.e. measurement, evaluation and recording. The Dräger Alcotest 7410 printer provides an immediate printout of all relevant data such as date, time, test results, measurement units and instrument number on a report strip.

User-friendly

The instrument can be used immediately on site. The transfer of data from the

Dräger Alcotest 7410 and the printer do not require cables. The user can select the number of copies of the report from the instrument. Up to 500 data sets can be read out on a PC with the help of RECALL 2.0 software.

Flexible power supply

The Dräger Alcotest 7410 printer can be powered with either an adapter and connection cable via a vehicle dashboard or via a rechargeable battery pack. A power supply is also available for use in hospitals.

TECHNICAL DATA

Dimensions (W x H x D)	140 x 133 x 48 mm
Weight	approx. 500 g
Operating temperature	0 to + 50°C
Storage temperature	-40 to + 70 °C
Operating voltage	9.5 V to 17 V/1A Power
Power consumption	ca. 10 W when printing, ca. 2 W on standby
Batteries	2 x Mignon, AA (LR6, DIN IEC 86)
Data logger capacity	approx. 500 data sets
Cable connection to PC	3.5" socket connector

ORDER INFORMATION

Dräger Alcotest 7410 Printer (Power supply is not part of scope of delivery)	83 15 950
Power Supply	
Power supply unit Dräger Alcotest 7410 Printer (rechargeable)	83 15 699
Adapter for use on power supply unit with Alkaline batteries	83 15 786
Via vehicle dashboard	
12 V vehicle cable connection (also when charging 83 15 699)	83 12 166
Standard Power Supply	
12 V/1A, input voltage 100 V to 240 V AC, 50/60 Hz (also when charging 83 15 699)	83 15 635

Dräger Alcotest 7410 Printer

Data transfer management

PC-Adapter cable for serial interface (for 25-pin RS 232 connection)	83 12 160
PC-Adapter cable for serial interface (for 9-pin RS 232 connection)	83 13 250
Software Package RECALL 2.0	83 13 140

Consumables

Cassette ribbon cartridge	81 00 284
Print paper single-ply (5 rolls)	81 00 318
Printer paper double-ply (5 rolls)	83 15 093

Dräger Mobile Printer

The Dräger Mobile Printer enables breath alcohol measurements to be printed out on site. The transfer of data from the Alcotest 6810 or Dräger Alcotest 7410 is done safely and quickly using an optical interface. The thermal printing procedure guarantees low user costs and offers high quality printout on long term stable thermal paper.



ST 6404-2008

Dräger Mobile Printer:

Test results – hard copy on site.

Documentation

With the Dräger Mobile Printer results from breath alcohol tests can be printed out with corresponding test person data as a report. Thus the printer and the Alcotest equipment provide a suitable system for breath alcohol analysis which enables complete documentation of results.

Extremely user-friendly

The same batteries can be used in the Dräger Mobile Printer as in the Dräger Alcotest 6810. The NiMH batteries can be charged by using the same power connection. The Dräger Mobile Printer is a thermal printer which requires neither toner nor ink. The low maintenance costs, long life thermal paper and simple method of changing paper make the instrument very user-friendly.

Wireless data transfer

The Dräger Mobile Printer optical interface allows a wireless transfer of breath test data to the printer. The printer control allows a simple, quick and tamper-proof display of all test data in mobile and stationary instruments.

Speed and quality

The alcohol test results are transferred to the Dräger Mobile Printer without delay whilst the thermal printer quietly provides quick high quality printouts.

Dräger Mobile Printer

TECHNICAL DATA

Ambient conditions	Operation	Temperature -5 to +50°C Humidity 100%, non-condensing
	Storage	Temperature -20 to +50°C Humidity 100%, non-condensing
Dimensions (W x H x D)	110 x 60 x 205 mm	
Weight	approx. 400 g	
Power supply	4 x 1.5 V alkaline batteries (Mignon, LR6, AA) or 4 x 1.2 V NiMH rechargeable batteries (Mignon, LR6, AA)	
Components		
Printer	Thermal printer	
Printer paper	Thermal paper, width 58 mm	
	Shelf life 7 or 25 years	
CE mark	Directive 89/336/EEC	
	Electromagnetic compatibility	

ORDER INFORMATION

Dräger Mobile Printer	83 19 310
Printer paper (5 roles), 7 year shelf life	83 19 002
Printer paper with long shelf life and margin printing, 25 year shelf life	83 18 461
Alkaline battery (1 pc.)	13 35 804
NiMH rechargeable battery (1 pc.)	18 90 092
Charger for the NiMH batteries in the Dräger Mobile Printer	83 16 991
Network adapter	83 19 348
PC connection cable with Mini-USB	83 18 857

Dräger Alcotest Accessories

A comprehensive list of accessories is available for the Dräger Alcotest product family, as well as parts that facilitate operation of the instrument and calibration work.

Accessories include:

- Hygienically and specially packed mouthpieces
- Carrying and transport case for instrument, power supply and mouthpieces
- Training video, to train user on correct handling of instrument
- Necessary equipment to carry out calibrations (adapter, gases, clips)
- PC-Software and cable connection for documentation and evaluation of test results
- Various power supply units to ensure continuous charging level and to guarantee flexible use of Alcotest product family: batteries as well as charging unit and vehicle connection to fit in cigarette lighter.

ORDER INFORMATION

	Dräger Alcotest 6510	Dräger Alcotest 6810	Dräger Alcotest 6810 med	Dräger Alcotest 7410 plus	Dräger Alcotest 7410 plus RS	Dräger Alcotest 7410 plus com	Dräger Alcotest 7410 med	Dräger Alcotest 8510	Dräger Alcotest 7110 Standard IR	Dräger Alcotest 7110 Standard IR + EC	Dräger Alcotest 7110 Evidential	Dräger Interlock XT
Mouthpieces												
Dräger Alcotest 6510/ 6810 Mouthpieces (100 pcs.)	•	•										68 10 690
Dräger Alcotest 6510/ 6810 Mouthpieces (250 pcs.)	•	•										68 10 825
Dräger Alcotest 6510/ 6810 Mouthpieces (1000 pcs.)	•	•										68 10 830
Dräger Alcotest 6510/ 6810 Mouthpieces (with valve) (100 pcs.)	•	•	•									68 11 055
Dräger Alcotest 6510/ 6810 Mouthpieces (with valve) (250 pcs.)	•	•	•									68 11 060
Dräger Alcotest 6510/ 6810 Mouthpieces (with valve) (1000 pcs.)	•	•	•									68 11 065
Dräger Alcotest 7110/ 7410 Mouthpieces (with valve) (25 pcs.)				•	•	•	•		•	•		68 05 703
Dräger Alcotest 7110/ 7410 Mouthpieces (with valve) (100 pcs.)				•	•	•	•		•	•		68 10 611
Dräger Alcotest 7110/ 7410 Mouthpieces (with valve) (250 pcs.)				•	•	•	•		•	•		68 10 610
Dräger Alcotest 7110 MK III Mouthpieces AT (Evidential)											•	68 09 501
Dräger Alcotest 7410 Mouthpieces (without valve) (25 pcs.)				•	•	•	•					68 05 700
Dräger Alcotest 7410 Mouthpiece "LOW BLOW"						•			•			68 10 432
Dräger Alcotest 7410 med Mouthpiece							•					44 13 024
Mouthpieces Dräger Interlock XT (5 pcs.)												• 68 10 478
Mouthpieces Dräger Interlock XT (300 pcs.)												• 68 11 325
Mouthpieces Dräger Alcotest 8510, white								•				44 13 016
Dräger Alcotest Printer Accessories												
Paper roll for printer, double ply 5 pcs.									•	•	•	83 15 093

Dräger Alcotest Accessories

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Dräger Alcotest Accessories

[illegible]

Dräger DrugTube™

Dräger DrugTube is designed to collect, store and safely transport saliva samples in the field of in vitro diagnostic and forensic applications. Saliva is an attractive alternative to other sample substances, because it is easy to collect and almost always available.

Saliva analysis is a future market

As an ultra-filtrate of the blood, saliva is scientifically recognised and is established in clinical chemical diagnostics. The Dräger DrugTube can be used to take saliva ("oral fluid") samples quickly, efficiently and without pain and stress. Due to the minimally invasive sampling process and the easy handling of the kit, there is no additional stress for the test subject and the risk of infections for the user (e.g. medical personnel and lab personnel) is considerably reduced.

Simple, hygienic, reliable

A simplified procedure comprising only three steps – collecting, recording, shipping – characterises the Dräger DrugTube kit principle for saliva samples. Sampling can be monitored easily, protects the privacy of the test subject and builds confidence by virtually excluding intended or unintended manipulation or falsification of the samples. In certain cases – especially where drugs are involved – this is a stress free alternative for users/test subjects compared to the sampling of

other body fluids like blood or urine.

Sampling with the Dräger DrugTube is possible everywhere, at any time. After sampling, the sealed test tube can be used to store and transport the sample safely. Storage, transport and documentation to be submitted for the sample would be coordinated with the Dräger Analysis Service or the commissioning lab.

Dräger analysis technology – consulting and drug analysis service

The Dräger DrugTube analysis process is designed to reliably detect the smallest amounts of illegal drugs (Cocaine, Opiates, Amphetamines, Methamphetamines, Phencyclidine and Cannabinoides) by a standardised laboratory analysis (Immunoassay, GC-MS, LC-MS). As with all Dräger products, the Dräger DrugTube is subject to the quality assurance system according to DIN ISO 9001/ ES 29001. The personnel responsible for the analysis are highly qualified and constantly trained to ensure maximum quality assurance and quality control (DIN EN ISO/IEC 17025).



ST-6914-2006

Dräger DrugTube:

Simple, Hygienic, Reliable.

ORDER INFORMATION

Dräger DrugTube (25 pcs.)

83 19 570

Dräger DrugCheck™

In diagnostic and forensic work the Dräger DrugCheck enables simultaneous qualitative tests to be carried out on up to six classes of illegal drugs taken from an oral fluid. The particularly simple to use test is designed in a way to be used by anyone, at any time and anywhere.



Dräger DrugCheck:
Simple, safe and sensitive.

Simple and safe

Three simple stages, collect, test and store, characterise the Dräger DrugCheck. The test kit consists of a sampling unit, tubes and a test card. Sampling is minimally invasive, the privacy of the tested person is not unnecessarily breached during the strictly controlled sampling procedure. No tampering with the sample is possible, thus promoting mutual trust between the person being tested and the tester.

Hygienic application

Samples are safely and individually packed. When the oral fluid sample is pressed out in the test tube, the tube is automatically clamped so that test kit components may be disposed off safely and hygienically.

High degree of sensitivity

After 10 minutes any illegal drugs (Cocaine, Opium, Amphetamines, Methamphetamines, Phencyclidine and Cannabinoides) can be safely tested using the test card before they come apart into their constituent substances. In particular the immune-chemical test for (Δ^9 THC) – the psychoactive component of Marijuana, Hashish and Hashish oil – reacts very sensitively.

Additional advantages

With very high sensitivity the test offers a variety of advantages for the user. The Dräger DrugCheck principle ensures that evaluation of the taken sample can be carried out on site. The oral fluid sample can be conserved in the test tube, stored and sent to a laboratory for confirmation at a later date.

TECHNICAL DATA

Dräger DrugCheck Limiting value concentration (Cut-off)	Drug	ng/ml
COC	Cocaine	20
OPI	Opium	40
AMP	d-Amphetamine	50
MET	d-Methamphetamine	50
PCP	Phencyclidine	10
THC	Δ^9 Tetrahydrocannabinol	50

ORDER INFORMATION

Dräger DrugCheck (25 pcs.)	83 19 550
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Personal Protection

POTENTIALLY LIFE THREATENING SITUATIONS CAN EXIST IN ANY WORKPLACE ENVIRONMENT. THE DIFFERING TASKS UNDERTAKEN BY THOSE WORKING IN INDUSTRY, WITHIN THE FIRE AND EMERGENCY SERVICES, GOVERNMENT, SHIPPING, MINING AND THE UTILITIES SERVE TO ILLUSTRATE THE DIVERSE CONDITIONS AND INFLUENCES THAT CAN BE FOUND.

Regardless of the difficulties, however, you need to be able to concentrate on the task in hand without unduly worrying about outside influences – and that means that you need the very best in reliable personal protection equipment.

Designed to support and protect the wearer, Dräger Safety's total solution approach to personal protection equipment can solve the problem. Whatever the situation, whether it involves chemical hazards, fire or poisonous gas, we have exactly the right system for you.

Providing safe and easy breathing under even the most difficult conditions, our respiratory protection products, for example, have been developed with the complex needs of the user in mind. From half and full face masks through to personal escape systems, chemical protection suits and compressed air breathing apparatus, they combine ease of use with the utmost in comfort and performance. Offered alongside our range of helmets, cooling vests, thermal imaging cameras, communications equipment and entry control systems, they form part of our fully compatible safety-system solution.

For over 100 years Dräger Safety has remained committed to the development of safe yet innovative technology. Today, we have an enviable reputation for setting worldwide standards in the design and manufacture of state-of-the-art personal protection equipment that incorporates comfort and reliability as well as the best possible performance. To you, the user, this means optimum safety and peace of mind.

Dräger X-plore® 1300

The Dräger X-plore 1300 product family sets new standards in comfort and safety. The ergonomically-shaped disposable dust mask gives protection against solid and liquid particles and is available in various designs for different applications.

ST-1113-2005



Dräger X-plore 1300:
A combination of safety
and comfort.

The right mask for various applications

The product programme contains masks in all three EN protection classes and NIOSH N95 and R95. Colour codes make the protection classes easy to recognise and indicate the correct mask for a specific purpose.

Comfortable to wear

The ergonomic shape, comfortable nose pad and cloured nose clip provide a good seal. Masks can be comfortably worn together with safety glasses and goggles, and the nose seal prevents glasses from steaming up. The optional climate control comfort exhalation valve makes breathing easier and reduces humidity and heat build-up inside the mask.

The textile elastic head straps ensure that the mask sits on the head correctly and enables easy donning and doffing without pulling the hair.

Safe to use

The multi-layered high performance filter material provides effective protection in the workplace, even in the most demanding conditions. The optional anti-odour active carbon layer filters out nuisance odours or organic vapours.

Right size

Along with the uniform sizes of the Dräger X-plore 1310 and 1320, the Dräger X-plore 1330 is available in two sizes.

The NIOSH versions Dräger X-plore 1350 and 1360 are all available in two sizes.

ORDER INFORMATION

Dräger X-plore 1300 (EN)		Protection Class as per EN 149:2001 (CE)	No / Box	Order-No.
	Dräger X-plore 1310	FFP1	20	39 51 200
		FFP1 V	10	39 51 201
	Dräger X-plore 1320	FFP2	20	39 51 203
		FFP2 V	10	39 51 204
	Dräger X-plore 1330	FFP3 V small/medium	5	39 51 207
		FFP3 V medium/large	5	39 51 208
Dräger X-plore 1300	Dräger X-plore 1320 Odour	FFP2 V	10	39 51 205
Odour	Dräger X-plore 1330 Odour	FFP3 V small/medium	5	39 51 209
		FFP3 V medium/large	5	39 51 210
Dräger X-plore 1300 (NIOSH)				
Dräger X-plore 1350 N95	S/M		20	39 51 220
Dräger X-plore 1350 N95	M/L		20	39 51 230
Dräger X-plore 1350 N95 V	S/M	with exhalation valve	10	39 51 221
Dräger X-plore 1350 N95 V	M/L	with exhalation valve	10	39 51 231
Dräger X-plore 1350 N95 V, Odour	S/M	with exhalation valve, odour relief	10	39 51 222
Dräger X-plore 1350 N95 V, Odour	M/L	with exhalation valve, odour relief	10	39 51 232
Dräger X-plore 1360 R95	S/M		20	39 51 225
Dräger X-plore 1360 R95	M/L		20	39 51 235
Dräger X-plore 1360 R95 V	S/M	with exhalation valve	10	39 51 226
Dräger X-plore 1360 R95 V	M/L	with exhalation valve	10	39 51 236

Dräger Piccola®

The disposable dust masks from the Dräger Piccola product family offer effective and comfortable protection against dust as well as solid and liquid particles. The unique Synsafe® filter material combines comfort and maximum filter performance with low breathing resistance. The Dräger Piccola is available in various designs. A colour code indicates the type of protection class.



ST-2558-2004

Dräger Piccola:

Maximum filter performance. Minimal breathing resistance.

Safety with Synsafe filters

A specially developed and patented filter media offers effective and permanent filtration against particles.

The multi-layered construction of the Synsafe filter combines low breathing resistance with high filter efficiency. So it can be worn for longer periods.

Comfort exhalation valve

The optional comfort exhalation valve reduces breathing resistance, moisture and heat build-up inside the mask.

More comfortable to wear

Because of its special design the masks will fit different face shapes. The hypo-allergenic, soft inner fleece means that the masks can be pleasantly worn for hours. The flexible nose clip ensures a close fit to the face and good sealing around the nose. Safety goggles will not fog up. Tear resistant, elastic textile head straps ensure that the mask sits securely and comfortably on the face.

Active carbon filters

The optional active carbon filter of the special carbon version filters out unpleasant odours.

ORDER INFORMATION

Filter Class As per EN149:2001	Usable up to X-times the limiting value		No / Box	Order No.
FFP1	4	with exhalation valve	20	67 37 819
FFP1 V			20	67 37 820
FFP2	10		20	67 37 821
FFP2 V		with exhalation valve	20	67 37 822
FFP2 V Carbon		with exhalation valve	15	39 51 006
FFP3	30		20	39 51 010
FFP3 Small			20	39 51 012
FFP3 V		with exhalation valve	15	67 37 823
FFP3 V Carbon		with exhalation valve	15	39 51 007
Dräger Piccola (NIOSH)				
Dräger Piccola N95			20	67 37 620
Dräger Piccola N95 V		with exhalation valve	20	67 37 621
Dräger Piccola R95 V		with exhalation valve	20	67 37 622
Dräger Piccola N95 V Odor		with exhalation valve, odour relief	20	67 37 623

Dräger X-plore® 2100

Frequent work in dusty atmospheres requires reliable respiratory protection against solid and liquid particles. The Dräger X-plore 2100 (formerly the Dräger Picco20) is the reusable alternative to disposable dust masks. The replaceable particle filters save costs, making the Dräger X-plore 2100 the ideal combination of safety and economic efficiency.



ST-1762-2005

Dräger X-plore 2100:
Ideal protection in dusty surroundings.

Extremely comfortable to wear

The ergonomically designed Dräger X-plore 2100 offers greatly reduced leakage in comparison to conventional particle filtering face pieces. Available in either EPDM or silicone – for particularly sensitive skin – as well as two different sizes for the silicone masks assure an excellent fit on a variety of faces. With the new anti-slip head harness the mask is guaranteed to stay in position.

The mask is also equipped with a practical “drop-down” strap system, which permits the removal of the mask by simply opening the neck strap without having to remove the hard hat.

Exhalation valve

The easy-breathing exhalation valve directs the exhaled air downwards and directly out of the mask promoting a comfortable atmosphere inside the mask.

High performance filtration

Due to its large surface area the Dräger X-plore 2100 filter has a high filtration efficiency with long service life. They are quick and easy to change.

Economical efficiency

Long service life and replaceable filters make the Dräger X-plore 2100 an economical solution.

TECHNICAL DATA

Mask body	Silicone (blue) or EPDM (black)
Sizes	Small/medium (s/m) and medium/large (m/l) (Silicone) Universal size (EPDM)
Filter	Connector plug for Dräger Particle filter Type 882
Weight	Approx. 100 g
Head harness system	Flexible textile straps with an anti-slip head harness
Approval	EC-certified (EN 1827)
Maintenance/Repairs	Spare parts available

ORDER INFORMATION

Dräger X-plore 2100, EPDM	Universal Size	R 55 881
Dräger X-plore 2100, Silicone	Size s/m	R 55 883
	Size m/l	R 55 882
Replaceable Particle filter 882 FMP2 D/R95 (NIOSH) (EN1827), VPE = 25 pcs.		67 37 352
Replaceable Particle filter 882 FMP3 D/8100 (NIOSH) (EN1827), VPE = 25 pcs.		67 36 777
Dräger X-plore 2100 dusty work-place-sets: mask including 5 filters		
Dräger X-plore 2100, EPDM, universal size, with 5 filters FMP3		R 55 910
Dräger X-plore 2100, Silicone, Size m/l, with 5 filters FMP3		R 55 915

Dräger X-plore® 3300/3500 Half Masks

A new dimension in respiratory protection: The Dräger X-plore dual filter respirators. In collaboration with users in industry Dräger Safety has developed a new dual filter respiratory protection series, which in practical terms combines easy handling with comfort thereby offering an optimal solution for demanding applications. Innovative materials along with a modern design makes for utmost user acceptance.



ST-680-2002

Dräger X-plore 3300/3500 Half Masks:

Designed for the field and comfortable.

Economical and robust

Depending on requirements choose between the maintenance free, economical Dräger X-plore 3300 or the extremely durable Dräger X-plore 3500 for continuous and demanding applications. The Dräger X-plore 3500 is especially equipped with hypoallergenic resistant "DrägerFlex" material as well as a "Drop-Down" strap system.

This enables the mask to be removed without removing protective headgear.

Optimal comfort

The flexi-fit head harness sits comfortably, whilst the innovative cross over of the harness promotes optimal distribution of weight which in turn makes the mask more pleasant to wear.

The flexible nose piece ensures a secure seal even when wearing protective goggles. The low profile design and position of the filters guarantees unimpaired vision and permits the use of protective visors. By using one of the three sizes available a perfect fit to almost any face is ensured.

Great operational safety

The masks are equipped with two bayonet connections which connect easily to the X-plore bayonet filters – it is impossible to fit the mask to the filter incorrectly.

TECHNICAL DATA

Mask body	Dräger X-plore 3300: Soft-TPE – pleasant to wear, translucent grey Dräger X-plore 3500: DrägerFlex – very hypoallergenic, first class comfort robust, silicone free
Black	
Sizes	small (s), medium (m), large (l)
Filter connection	Two side fitting bayonet connections for use of Dräger X-plore dual filter series
Weight	Approx. 95 g
Approvals	EC-certified (EN 140)
Maintenance / Repairs	Spare parts available for Dräger X-plore 3500
Spares	For every Dräger X-plore 3500: Harness with practical neck fastening and wear resistant carrying bag.

ORDER INFORMATION

Dräger X-plore 3300 Half Mask	Sizes s	R 55 331
	Sizes m	R 55 330
	Sizes l	R 55 332
Dräger X-plore 3500 Half mask (with drop down harness seal and carrying bag)	Sizes s	R 55 351
	Sizes m	R 55 350
	Sizes l	R 55 352

Accessories

Bayonet connection cover (for pressure drop tests)	AG 02 460
"Wikru" carrying case	RM 07 000

The Dräger X-plore filter series offers a comprehensive programme of different particle, gas and combination filters (see page 129).

Dräger X-plore® 4300

The Dräger X-plore 4300 – the cost efficient single filter half-mask. These half-masks are characterized by their light-weight and economical efficiency. An optimised design coupled with hypoallergenic material ensures comfort that you can afford to wear.



ST-2608-2004

Dräger X-plore 4340:

Light, comfortable and economic.

Optimal fit

Innovative material (TPE) along with two different sizes and low weight guarantee a comfortable fit.

This enables the user to wear the mask comfortably for a longer period. The head harness with two adjustment points and a preformed head harness ensure that the mask can be easily donned and doffed.

Exhalation valve

The exhalation valve leads hot air and humidity directly out of the mask giving you a comfortable micro-climate inside the mask.

Wide range of filters

Masks are available with two different filter connections: The round thread connection Dräger X-plore-Rd40 (Dräger X-plore 4340) or the Dräger-specific Rd90-thread (Dräger X-plore 4390) together with a large choice of particle, gas and combination filters to fit your applications.

Economic efficiency

The Dräger X-plore 4300 guarantees effective respiratory protection at a particularly low cost. Protection you can't afford to deny.

TECHNICAL DATA

Mask body	TPE, hypoallergenic	
Sizes	Medium/large (m/l) or small/medium (s/m)	
Filter connection	Standard-thread Rd40 (RA) according to EN 148-1 (Dräger X-plore 4340) Dräger-specific-thread Rd90 (Dräger X-plore 4390)	
Weight	Dräger X-plore 4340:	90 g
	Dräger X-plore 4390:	135 g
Head harness system	Textile straps, 2 adjustment points, polypropylene head harness for optimal pressure distribution.	
Approvals	EC-certified (EN 140)	

ORDER INFORMATION

Dräger X-plore 4340	Medium/large (m/l)	R 54 270
	Small/medium (s/m)	R 54 275
The Dräger X-plore Rd40-filter series with standard threads according to EN 148-1 offers a comprehensive programme of various particle, gas- and combination filters (see page 128)		
Dräger X-plore 4390	Medium/large (m/l)	R 54 280
	Small/medium (s/m)	R 54 285
The Dräger X-plore Rd90-filter series (with a Dräger-specific connection) offers a comprehensive programme of various particle, gas and combination filters (see page 128)		

Dräger X-plore® 4700

The robust single filter half mask Dräger X-plore 4700, the successor of the proven Dräger Combitor Nova, offers excellent comfort and first class fit. A combination of a hard plastic shell and an extra soft ergonomically shaped mask body permits comfortable and robust respiratory protection. The Dräger X-plore 4700 is available with two different connector threads.



ST-700-2006

Dräger X-plore 4790:

First class sealing, first class comfort.

Ergonomic revert seal

Through the ergonomic seal, the choice between two alternative comfortable materials (silicone or TPE) as well as two sizes for the silicone mask version the Dräger X-plore 4700 ensures first class fit and optimal comfort for a wide range of faces. In addition, the newly shaped nose section enables an improved fit with safety glasses.

Greater comfort

The exhalation valve directs the exhaled air downwards and out of the mask to create a pleasant atmosphere in the mask. Newly equipped with the „Flexi-fit“ head

harness, it guarantees an excellent fit without hair entanglement.

The “Drop Down” strap system permits the mask to be removed by simply opening the neck strap without having to remove the hard hat.

Broad selection of filters for multiple application

The standard thread connection Rd40 (on the Dräger X-plore 4740) and the Dräger-specific Rd90 thread, with which the Dräger X-plore 4790 is equipped, permits a range of applications with suitable particle, gas and combination filters.

TECHNICAL DATA

Mask body	Silicone (black) or TPE (transparent-grey) With blue hard body made of stable PP-plastic
Sizes	Silicone: Small/Medium (s/m) and Medium/Large (m/l) TPE: universal size
Filter connection	Standard Rd40 thread (RA) according to EN 148-1 (Dräger X-plore 4740) Dräger-specific Rd90 threads (Dräger X-plore 4790)
Weight	Dräger X-plore 4740: 175 g Dräger X-plore 4790: 195 g
Head strap	Flexible, robust strap made from neoprene (CR/NR), 2 adjustment points, PU-head harness, drop down option
Approvals	EC certified (EN 140)
Maintenance/Repairs	Spare parts available

ORDER INFORMATION

Dräger X-plore 4740, Silicone	Medium / large (m/l)	R 55 874
	Small / medium (s/m)	R 55 875
Dräger X-plore 4740, TPE	Universal size	R 55 876
Dräger X-plore 4790, Silicone	Medium /large (m/l)	R 55 877
	Small / medium (s/m)	R 55 878
Dräger X-plore 4790, TPE	Universal size	R 55 879

Dräger X-plore® 5500

For decades Dräger Safety full face masks have stood for the highest quality. Comprehensive respiratory and eye protection make the Dräger X-plore 5500 dual filter full face mask the optimal solution in environments in which respiratory and eye protection are required.



ST-692/2002

Dräger X-plore® 5500:
safe protection for eyes
and breathing.

Double-layer face seal

The highest protection factor through its triple sealing action ensures a secure seal for every type of face.

Large visor

It provides an excellent field of vision without distortion, plus a high level of chemical, thermal and mechanical resistance.

Compact design

Due to its "low-profile" design and the laterally positioned filters the wearer's view is not in any way restricted. Good vision from all sides is guaranteed as well as excellent unrestricted movement.

The simple adjustable five point harness means the mask can be donned and doffed quickly and easily.

Safe and easy connector

The mask is equipped with two bayonet connections which enable the filter to be easily and safely attached. It is almost impossible to mount the filter incorrectly.

Simple logistics

„One-size-fits-all": the Dräger X-plore 5500 offers perfect fitting to almost all face sizes. The universal size facilitates efficient storage options and spare part holdings.

TECHNICAL DATA

Mask body	Highly resistant to ageing, very hypoallergenic
Visor	Polycarbonate with wide field of vision
Filter connection	Two side fitting bayonet connections for use on X-plore bayonet filter series.
Weight	Approx. 540 g
Approvals	EN136 Class 2 with CE mark and NIOSH
Maintenance/Repairs	Spare parts available

ORDER INFORMATION

Dräger X-plore full mask 5500 Universal size	R 55 270
Accessories	
Mask spectacles (frame and holder)	R 51 548
Mabox II carrying case	R 54 610
Wikov V carrying case	R 51 019
Protective lens covers (set with 25 units)	R 25 355
„Klar Pilot" Gel (cleaning agent for visor)	R 52 560
Daisy Quick disinfection cloths	R 54 134

The Dräger X-plore bayonet filter series offers a comprehensive range of various particle, gas and combination filters (see page 129).

Dräger X-plore® 6300

The classic among full face masks: As successor to the Dräger Panorama Nova Standard full face mask the Dräger X-plore 6300 offers all the advantages of this reliable and cost effective mask. Its quality and comfort have been proven in many branches of industry.



ST-7494-2005

Dräger X-plore 6300:
Proven world wide and absolutely unbeatable.

Good sealing and comfort

Ergonomic design and a double layer face seal with triple sealing action and one universal size the mask offers a maximum in respiratory and eye protection on almost any face shape. The mask body is made of EPDM material. The comfortable and easily adjustable five point harness guarantees that the mask can be quickly and easily donned and doffed.

Large visor

The 180 degree-panoramic visor made from scratch proof Plexiglas (PMMA) offers the wearer a wide field of vision. The streamlined ventilation prevents the visor from fogging.

Universal application

The mask is equipped with an Rd40 threaded connection which allows it to be used with Dräger X-plore Rd40 respiratory filters, powered air purifying respirators and positive pressure compressed air breathing apparatus. All mask parts are easy to maintain. With its comprehensive list of accessories the Dräger X-plore 6300 is suitable for many individual applications.

TECHNICAL DATA

Mask body	Sturdy and hypoallergenic EPDM
Visor	Scratch proof PMMA (Plexiglas) with 180° wide angle
Connection piece	Sturdy plastic with inhalation and exhalation valves Standard round thread connections Rd40 x 1/7" as per EN 148-1
Weight	Approx. 500 g
Tested and approved	EN 136 Class 2 (CE mark), NIOSH, AS/NZS

ORDER INFORMATION

Designation	
Dräger X-plore 6300	R 55 800
Accessories	
Wikov V carrying case	R 51 019
Mask spectacle frame	R 51 548
Anti-fog gel »Klar-Pilot« (50 ml)	R 52 560
DAISY quick cleaning cloths (pack of 10)	R 54 134

The Dräger X-plore Rd40-filter series with standard-threads according to EN 148-1 offers a comprehensive programme of various particle-, gas- and combination filters (see page 128).

Dräger X-plore® 6500

First class respiratory and eye protection: The Dräger X-plore 6500 series is designed for professional use in the widest range of applications from mining to the fire service. Successor to the full face mask Dräger Panorama Nova and proven over many decades, the Dräger 6500 series represents the highest demands in quality, fit and comfort. To improve verbal communication the Dräger X-plore 6500 is equipped with a stainless steel speech diaphragm.



ST-7495-2005

Dräger X-plore 6530:
Reliable partner for professionals.

Perfect fitting and comfort

The mask body is available in either robust EPDM or hypoallergenic, extremely flexible silicone. A double layer face seal available in one universal size ensures a good fit on many different face shapes.

The comfortable easily adjustable five point head harness ensures that the mask can be quickly donned and doffed.

Also included is a practical neck strap.

Excellent vision

The distortion-free 180 degree Panorama visor guarantees a wide field of vision.

It is available in an impact resistant polycarbonate (with a soft plastic frame) or chemical resistant Triple X-glass (with

an extra stable stainless steel frame).

The intelligent ventilation system ensures that the mask lens does not fog.

A stainless steel speech diaphragm improves verbal communication.

Compatibility

Usable with respiratory filters, a powered-air purifying respirator or compressed air breathing apparatus the mask can be used in a number of applications. All mask parts including the valves are easily maintained.

An internal barcode facilitates registration and maintenance of mask components.

High quality materials and careful manufacturing guarantee mask longevity.

TECHNICAL DATA

Mask body, Dräger X-plore 6530	Sturdy and robust EPDM
Mask body, Dräger X-plore 6570	Hypoallergenic and with high / low temperature flexible silicone.
Visor	Optional impact resistant polycarbonate or extreme temperature and chemically resistant triplex
Connection piece	Sturdy plastics with inhalation and exhalation valve, standard round thread connection Rd40 x 1/7" in accordance with EN 148-1
Weight	Approx. 550 – 650 g (depending on glass / frame)
Tested and approved	EN 136 Class 3 (CE mark), NIOSH (PC), AS/NZS

Dräger X-plore 6500

ORDER INFORMATION

Dräger X-plore 6530 with PC visor	R 55 795
Dräger X-plore 6530 with Triplex visor	R 55 810
Dräger X-plore 6570 with PC visor	R 55 790
Dräger X-plore 6570 with Triplex visor	R 55 850
Accessories	
Wikov V carrying case	R 51 019
Protex mask bag	R 54 939
Spectacles frame	R 51 548
Lens covers (set of 25)	R 25 355
Welder's protection visor (only for stainless steel frame)	R 50 270
Anti-misting gel »Klar-Pilot« (50 ml)	R 52 560
DAISY quick cleaning cloths (pack of 10)	R 54 134

Dräger CDR 4500 Full Face Mask

The Dräger CDR 4500 full face mask was specifically designed for use in civil defence and civil protection. Together with a suitable respiratory filter, the mask provides effective protection against hazardous substances in the ambient air.



Dräger CDR 4500 Full Face Mask.
Excellent respiratory protection for civil defence.

The new Dräger CDR 4500 full face mask offers complete protection of the respiratory organs and face from harmful gases and particles in the ambient air. The elastomer mask body is extremely resistant to chemicals and mechanical impact.

Emergency teams on the spot appreciate its simple handling, outstanding comfort and excellent fit for a wide range of head and face sizes. A neck strap is supplied as standard.

The centrally located and standardised cartridge connection ensures a good balance and prevents the mask slipping on the face even during prolonged use. It is suitable for attachment of various filter types. The visor provides a large, distortion free field of vision, while the integrated speech diaphragm enables a clear man-to-man communication.

The specially chosen materials and first-class workmanship ensure a high standard of quality and long service life. The mask is tested and approved to EN 136 Class 3.

Included in the extensive range of Dräger filters are a variety of respiratory filters that are tailored to individual uses such as the A2B2E2K1-P3/NBC filter, which is designed for a wide range of applications. This filter is approved according to EN 141 (CE) and fulfils the requirements for filters used in civil protection. It is available in two colours. Mask and filter represent an important part of the personal protective equipment of emergency teams, are versatile in use and compatible with other protective equipment.

Dräger CDR 4500 Full Face Mask

TECHNICAL DATA

Dräger CDR 4500 full face mask	
Mask as a whole	High chemical resistance according to EN 136, resistance even against warfare agents (to US NIOSH CBRN standard). High ageing resistance
Mask body	Silicone-free elastomer
Sealing frame	Double seal with triple sealing line for comfortable, tight fit
Visor	Impact-proof polycarbonate (PC) with anti-scratch coating on both sides for high chemical resistance. Large field of vision and excellent quality of vision
Filter connection	Standard thread to EN 148-1
Weight	Approx. 500 g (without filter)
Harness	5-point (large adjusting points to prevent trapping of hair)
Neck strap	As standard
Speech diaphragm	Stainless steel, high speech quality
Resistance	To US CBRN APR standard against sarin and mustard gas for up to 8 hours. Test description and test concentration on request.
Service life	> 10 years (storage and servicing as per manual)
Approvals	US NIOSH CBRN standard (submitted), EN 136 Class 3, CE mark

Respiratory filter A2B2E2K1-P3/NBC

Performance data	Particle filtration efficiency	99.997 %	
Test results to EN 141:2000	Gas	Concentration	Minimum breakthrough time
	C ₆ H ₁₂	5000 ppm	> 35 minutes
	Cl ₂	5000 ppm	> 20 minutes
	H ₂ S	5000 ppm	> 40 minutes
	HCN	5000 ppm	> 25 minutes
	SO ₂	5000 ppm	> 20 minutes
	NH ₃	1000 ppm	> 50 minutes
Test results to CEB/DPN/IF reference T4240x00451			
	Cl ₃ CNO ₂	2 g/m 3	> 60 minutes
	HCN	2 g/m 3	> 60 minutes
	CICN	2 g/m 3	> 60 minutes

ORDER INFORMATION

Dräger CDR 4500 (black)	R 55 440
Respiratory filter A2B2E2K1-P3/NBC (black)	67 36 120
Respiratory filter A2B2E2K1-P3/NBC (silver)	67 36 121
Accessories	
Protex mask bag	R 54 939
Wikov V carry box	R 51 019
Spectacle kit	R 51 548
"Klar Pilot" anti-fog gel (50 ml)	R 52 560
Daisyquick cleaning cloth	R 54 134

Dräger Filter

Whether in the chemical or automobile industry, shipbuilding or metal processing Dräger filters have been synonymous with experience and safety for years. They provide cost effective and efficient filtration of hazardous gases, vapours and particles. In combination with different half and full face masks there are three filter series available.



SI-1800-2005

Dräger Filter:

More than 70 years experience in filter technology.

Guaranteed proven protection

All three filter series are CE-certified (EN 14387, EN 143:2000 A1-2006) and guarantee excellent user safety. Reliable and practical they offer protection for almost any application. Low purchase costs and long service life (6 years for gas and combination filters, 12 years for particle filters and 3 years for Dräger X-plore bayonet particle pads).

Under www.draeger.com/voice users will find comprehensive filter application advice which can be accessed 24 hours a day.

Different colour codes on the filters identify various areas of application.

Dräger X-plore bayonet filters

For dual filter half and full face masks Dräger X-plore 3300, 3500 and 5500. This filter series with a Dräger specific bayonet connection covers all essential applications in industry. The option to extend gas filters into combination filters can be done simply by adding a particle pad and retainer – this helps extend the filter service life. The filters are protected by a robust plastic housing and can easily be worn under visors.

The bayonet connection is designed so that the filters cannot be mounted incorrectly.

This ensures that the filter can be fitted safely and quickly. Filters are packed in pairs complete with user instructions. Combination filters are available for special applications.

Dräger X-plore Rd40 filters

For all half and full face masks with connections in accordance to EN 148-1.

One series covers everything:

The Dräger Rd40 Filter series with standard threads in accordance with EN 148-1 has proved itself many times in the field and offers the user a comprehensive programme of different types of filter for a broad range of applications. Filters in aluminium housings are individually packed for optimal protection and come complete with user instructions.

Dräger X-plore Rd90 filters

For Dräger X-plore half masks X-plore 4390 and X-plore 4790.

The Dräger X-plore Rd90 filters are cost effective and can be applied to many situations. This range offers a large selection of filters for all essential areas of application. The compact filters with an aluminium housing are individually packed. The filter box 40/90 allows the user to adapt Rd90 threaded filters to masks with an Rd40 thread. This promotes greater flexibility. Together with the 40/90 adapter these filters can also be used on all masks with standard threads in accordance with EN 148-1.

Dräger Filter

ORDER INFORMATION

Dräger X-plore Rd40 Filter (EN)

Particle Filter

680 P3 (incineratable)	25 pcs.	70 g	67 32 974
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Gas filter

900 A2	1 pc.	185 g	67 27 381
900 A2B2	1 pc.	215 g	67 29 182
105 AX	1 pc.	270 g	67 35 904
105 AXB2*	1 pc.	330 g	67 36 257
900 E2	1 pc.	255 g	67 27 384
900 K2	1 pc.	245 g	67 27 385
900 A2B2E2K1	1 pc.	260 g	67 35 871
620 A2B2E2K2*	1 pc.	330 g	67 35 902

Combination filter

900 A2-P2D	1 pc.	190 g	67 27 386
620 A2-P3D	1 pc.	230 g	67 35 895

Can also be used with PAPR TH/M3 A2 PSL (EN 12941/12942) for Dräger X-plore 7500

900 A2B2-P2D	1 pc.	250 g	67 30 582
620 A2B2-P3D	1 pc.	260 g	67 35 896

Can also be used with PAPR TH/M3 A2 B2 PSL (EN 12941/12942) for Dräger X-plore 7500

105 AX-P3D	1 pc.	275 g	67 35 903
900 K2-P2D	1 pc.	255 g	67 27 390
900 A2B2E2K1-P2D	1 pc.	270 g	67 35 874
620 A2B2E2K1 Hg-P3D	1 pc.	295 g	67 37 064
620 A2B2E2K2 Hg-P3D*	1 pc.	340 g	67 35 470

Can also be used with PAPR TH/M3 ABEK2 Hg PSL (EN 12941/12942) for Dräger X-plore 7500

620 A1B2E2K1 Hg CO NO-P3D*	1 pc.	435 g	67 35 812
711 B2CO-P3D*	1 pc.	480 g	67 35 907
620 Nuclear-P3D	1 pc.	220 g	67 36 775
620 Reactor-P3D	1 pc.	250 g	67 35 900
650 Reactor-P3D*(incineratable)	1 pc.	340 g	67 34 292

*only to be used with full masks, as filter weight >300 g

Accessories

Filter-plug adapter RA-P			67 36 770
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Pre-filter

Coarse dust filter**			67 36 705
Coarse dust filter self-extinguishing**			67 36 706

Dräger X-plore Rd90 Filter (EN)

Particle filter

674 P2	5 pcs.	35 g	67 37 357
674 P3	5 pcs.	35 g	67 37 190

Gas filter

671 A1	5 pcs.	80 g	67 36 711
671 A2	5 pcs.	115 g	67 36 712
671 A2B2	5 pcs.	160 g	67 36 714
671 B1E1	5 pcs.	95 g	67 36 713
671 A1B1E1K1	5 pcs.	160 g	67 36 719

Combination filter

672 A1-P2D	5 pcs.	90 g	67 36 721
673 A1-P3D	5 pcs.	90 g	67 36 731
672 A2-P2D	5 pcs.	125 g	67 36 722

Dräger Filter

673 A2-P3D	5 pcs.	125 g	67 36 732
672 A1B1-P2D	5 pcs.	100 g	67 36 725
672 A2B2-P2D	5 pcs.	165 g	67 36 724
673 A2B2-P3D	5 pcs.	175 g	67 36 734
672 B1E1-P2D	5 pcs.	100 g	67 36 723
673 B1E1-P3D	5 pcs.	100 g	67 36 733
672 A1B1E1K1-P2D	5 pcs.	165 g	67 36 729
673 A1B1E1K1Hg-P3D	5 pcs.	170 g	67 36 739

Accessories

Filter box 40/91 (adapter)	5 pcs.	45 g	R 55 015
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Dräger X-plore Bayonet Filter (EN)

Particle filter

P3	22 pcs. = 11 pairs	35 g/pc	67 38 011
P2 Pad	20 pcs. = 10 pairs	5 g/pc	67 38 001
P1 Pad	20 pcs. = 10 pairs	5 g/pc	67 38 002
Pad Retainer	12 pcs. = 6 pairs	20 g/pc	67 38 038
Pad Base	12 pcs. = 6 pairs	20 g/pc	67 38 039

Gas filter

A1	20 pcs. = 10 pairs	90 g/pc	67 38 005
A2	20 pcs. = 10 pairs	90 g/pc	67 38 006
A1B1E1K1	20 pcs. = 10 pairs	110 g/pc	67 38 007

Combination filter

A1-P3D	14 pcs. = 7 pairs	120 g/pc	67 38 015
A2-P3D	14 pcs. = 7 pairs	120 g/pc	67 38 016
A1B1E1K1Hg-P3D	14 pcs. = 7 pairs	140 g/pc	67 38 017

Dräger X-plore Bayonet Filter (NIOSH)

Particle filter

P100	22 pcs. = 11 pairs	35 g/pc	67 38 012
N95 Pad	20 pcs. = 10 pairs	5 g/pc	67 38 020
R95 Pad	20 pcs. = 10 pairs	5 g/pc	67 38 021
Pad Retainer	12 pcs. = 6 pairs	20 g/pc	67 38 038
Pad Base	12 pcs. = 6 pairs	20 g/pc	67 38 039

Gas and Vapour Cartridges

OV	20 pcs. = 10 pairs	90 g/pc	67 38 024
OV/AG/HF/CD/FM	20 pcs. = 10 pairs	90 g/pc	67 38 025
AG	20 pcs. = 10 pairs	90 g/pc	67 38 026
AM/MA	20 pcs. = 10 pairs	120 g/pc	67 38 027

Combination Cartridges

OV/P100	14 pcs. = 7 pairs	120 g/pc	67 38 034
OV/AG/P100 + FM,CD,HF	14 pcs. = 7 pairs	120 g/pc	67 38 035
AG/P100	14 pcs. = 7 pairs	120 g/pc	67 38 036
AM/MA/P100	14 pcs. = 7 pairs	150 g/pc	67 38 037

** only to be used with Dräger X-plore Rd90 filter

Dräger X-plore® 7300

The Dräger X-plore 7300 powered air purifying respirator is extremely comfortable to wear as it provides effective particle protection without any breathing resistance. It offers reliable protection against health endangering substances particularly during long operations involving grinding and wood working, the metal processing industry and welding operations as well as agriculture.

With its comprehensive range of accessories it provides the highest degree of flexibility for almost any application.



ST-3213-2003

Dräger X-plore 7300:
Powered air protection
against hazardous particles.

Air purification with comfort

The air flow can be regulated to individual requirements by the touch of a button on the control panel. The standard comfort belt makes it ergonomic to wear.

Multi-function control panel

With the visible multi-function control panel the user has everything under control. Battery and filter capacity can be monitored at any time.

Safety by warning functions

The two stage warning device gives both a visual and audible warning of a decrease in air supply.

Flexible filter application

On request the Dräger X-plore 7300 can also be equipped with pre-filters as well as nuisance-level odour filters.

Long battery operating times

The rechargeable battery NiMH battery guarantees an operating time of up to 15 hours together with the highest degree of independence and freedom of movement.

Comprehensive accessories

Dräger X-plore helmets, hoods, visors, half masks Dräger X-plore 4740 as well as Dräger full masks X-plore 6300 can be flexibly combined with the Dräger X-plore 7300.

TECHNICAL DATA

Designation	Powered air purifying respirator for protection against particles
Approval	EN 12941 with Dräger X-plore helmets, hoods and visors EN 12942 with Dräger X-plore 6300 full masks and X-plore 4740 half masks
Air supply	Variable, adjustment from 140 to 210 litres per min
Battery	NiMH battery 4.8V/4.5 Ah, single charge instrument with overload protection
Weight incl. filter and battery	900 grams
Filter class	TH3 PSL with Dräger X-plore helmets, hoods and visors TM3 PSL with Dräger X-plore 6300 full face masks
Operating period	6-15 hours (depending on the adjustable air supply and ambient concentration of hazardous particles).

Dräger X-plore 7300

ORDER INFORMATION

Dräger X-plore 7300 complete set (EN)	R 55 145
incl. battery, charger, filter, standard comfort belt and breathing hose TH2	
Filter	
Filter TH/M3 PSL (TH3 only in conjunction with corrugated hose TH3 R 55 343)	67 36 715
Pre-filter (pack of 10)	67 36 716
Odour filter (pack of 10)	67 36 717
Dräger full masks: X-plore	
Dräger X-plore 6300 (EPDM, Class 2) (TM3 – to be used with corrugated hose Rd40, R 55 342)	R 55 800
Dräger X-plore 6570 (Silicone, Class 3) (TM3 – to be used with corrugated hose Rd40, R 55 342)	R 55 850
Accessories	
Spare battery	R 55 343
Dräger X-plore corrugated hose TH3	R 55 571
Dräger X-plore corrugated hose Rd40	R 55 342
Dräger X-plore premium comfort belt	R 55 363
Other spares and accessories on request	
Also see Chapter: Dräger X-plore helmets, hoods and visors	

Dräger X-plore® 7500

The Dräger X-plore 7500 powered-air purifying respirator is comfortable to wear while providing effective protection against gases, vapours and particles without any breathing resistance. Its comprehensive range of applications stretches from paint work to various activities in the chemical and petro-chemical industries as well as agriculture.



ST-3220-2003

Dräger X-plore 7500:

Powered air purifying respirator for protection against gases, vapours and particles.

Air purification with comfort

The air flow can be regulated to individual requirements by operating a button on the control panel. The premium comfort belt makes it ergonomic to wear.

Multi-function control panel

With the visible multi-function control panel the user has everything under control. Battery and filter capacity can be monitored at any time.

Safety by warning functions

The two stage warning device gives both a visual and audible warning of a decrease in air supply.

Standard filter thread Rd40 keeps logistics easy

The Dräger X-plore 7500 is compatible with standard Rd40 threaded filters (Dräger X-plore Rd40 filters). Additionally these filters can be used with Dräger single filter masks (with a Rd40 connection).

Long battery operating times

The rechargeable NiMH-battery guarantees an operating time of up to 10 hours together with the highest degree of independence and unrestricted movement.

Comprehensive accessories

Dräger X-plore helmets, hoods, visors, half masks Dräger X-plore 4740 as well as Dräger full face masks X-plore 6300 can be flexibly combined with the Dräger X-plore 7500.

TECHNICAL DATA

Designation	Powered air purifying respirator for protection against various gases, vapours and particles.
Approval	EN 12941 with Dräger X-plore helmets, hoods and visors EN 12942 with Dräger X-plore full face masks
Air supply	Adjustable in three stages depending on the type of operation. Hoods 120/140/160 litres/min Full-face masks 100/80/60 litres/min
Battery	NiMH battery H 7.2V/4.5 Ah, single charger unit with overload protection
Weight	incl. filter and battery: 1050 g
Operational period	6 - 10 hours. (depending on the adjusted air supply and concentration of hazardous substances)

Dräger X-plore 7500

ORDER INFORMATION

Dräger X-plore 7500 complete set (EN)	R 55 150
incl. battery, charger, premium comfort belt Premium and breathing hose TH2	
Filter	
Filter 680 P3 (incineratable) – TH/M3 PSL	67 32 974
Filter plugs for use with particle filters (use only 2 filters instead of 3)	R 53 344
Filter 620 A2-P3 D – TH/M3 A2 PSL	67 35 895
Filter 620 A2B2-P3 D – TH/M3 A2B2 PSL	67 35 896
Filter 620 A2B2E2K2 Hg-P3 D – TH/M3 A2B2EK2 Hg PSL	67 35 470
Dräger X-plore 6000 Series full face masks:	
Dräger X-plore 6300 (EPDM, Class 2) (TM3 – to be used with corrugated hose Rd40, R 55 342)	R 55 800
Dräger X-plore 6570 (Silicone, Class 3) (TM3 – to be used with corrugated hose Rd40, R 55 342)	R 55 850
Accessories	
Spare battery	R 55 344
Dräger X-plore corrugated hose TH3	R 55 571
Dräger X-plore corrugated hose Rd40	R 55 342
Dräger X-plore standard comfort belt	R 55 362

Other spares and accessories available on request.

Also see Chapter: Dräger X-plore helmets, hoods and visors.

Dräger X-plore® 9000 Supplied Air System

The Dräger X-plore 9000 system is a cost effective and comfortable belt manifold for light duty airline equipment applications. Approved for use with Dräger masks and Dräger X-plore helmets, hoods and visors it uses an operational compressed air supply and offers reliable and comfortable respiratory protection for extended duration.

Flexible to use

The Dräger X-plore 9000 has a pre-adjusted regulating valve which is fixed to the belt. Using a 10 m long hose the system is attached to a compressed air ring main, a mobile air supply or directly to a compressor.

Comfortable breathing

With an inlet pressure of between 3 and 10 bar the particularly lightweight equipment provides a constant feed of 160 litres / min to the headpiece. As a breathing connection all helmets, hoods and visors of the Dräger X-plore series can be directly connected to the standard breathing hose of the Dräger X-plore 9000.

Pre-adjusted regulating valve

The pre-adjusted regulating valve works quietly and offers the user reliable respiratory protection without hindering his activities in any way.

Filter station

In order to significantly improve the quality of air drawn from compressed air lines, compressors or cylinders the Dräger X-plore 9000 has a filter station with P3 particle filters to which two equipment carriers can be attached. The filter station is not included in the scope of delivery.



**Dräger X-plore 9000
Supplied Air System:**
Belt manifold for light airline
equipment.

TECHNICAL DATA

Dräger X-plore 9000	
Inlet air pressure	3 to 10 bar
Flow rate	160 litres/min
Weight	200 g
Waist size	80 to 100 cm
Acoustic level during operation	61 dB
Operational temperature	10 to 40 °C
Humidity during operation	20 to 80 % r.h.
Certification	EN1835 LDH2

ORDER INFORMATION

Dräger X-plore 9000 Standard – regulating valve	33 53 924
Dräger X-plore 9000 – Filter station	33 53 926
Dräger X-plore 9000 – Spare filter for filter station	33 53 927
Dräger X-plore 9000 – Hip belt	33 53 925
Spiral hose 10 m with dummy plug	33 53 928

Dräger X-plore 9000 Supplied Air System

Standard hose 10 m with dummy plug	33 53 929
Dräger X-plore hoods and helmets	
Dräger X-plore short hood grey	R 55 336
Dräger X-plore short hood orange	R 55 337
Dräger X-plore long hood grey	R 55 338
Dräger X-plore long hood orange	R 55 339
Dräger X-plore long hood white (TH3)	R 55 340
Dräger X-plore grinder's protection visor with polycarbonate screen	R 55 346
Dräger X-plore grinder's protection visor with acetate screen	R 55 428
Dräger X-plore safety helmet with visor	R 55 347
Dräger X-plore welder's protection visor	R 55 348

You can see further accessories on page 136

Dräger X-plore® Helmets, Hoods and Visors

The comprehensive range of Dräger X-plore helmets, hoods and visors offers the highest degree of flexibility and enables countless combinations of equipment. All accessory components can be flexibly combined with Dräger X-plore 7300 and 7500 powered air purifying respirators as well as the light duty compressed airline apparatus X-Plore 9000. An innovative system which always provides the optimal solution for every particular application.

Be prepared with Dräger Safety head gear

Whatever area of application is required the X-plore head gear has the right attachment for your application. The Dräger X-plore short hood is characterised by its extremely light weight – ideal when worn for unusually long periods. If both face and neck protection is needed then the Dräger X-plore long hood is recommended. It offers additional protection for the neck and hair and is particularly suitable for persons with beards and glasses.

The Dräger X-plore grinding visor with its drop down visor and uniquely constructed air duct is particularly comfortable to wear and offers an optimal combination of respiratory and eye protection. For areas in which helmets are compulsory the Dräger X-plore protection helmet is the right choice. As an option ear protection muffs can be added to the helmet. As well as a traditional protection lens the Dräger X-plore welder's protection visor is also available with electronic autodarkening protective lenses.



ST-3184-2003

Dräger X-plore Helmets, Hoods and Visors:

Always optimal protection for the head.

ORDER INFORMATION

Dräger X-plore hoods	Dräger X-plore short hood grey	R 55 336
	Dräger X-plore short hood orange	R 55 337
	Dräger X-plore long hood grey	R 55 338
	Dräger X-plore long hood orange	R 55 339
	Dräger X-plore long hood white (TH3 only in combination with corrugated hose, TH3, R 55 571)	R 55 340
Dräger X-plore grinding visor	Dräger X-plore grinding visor with polycarbonate lens	R 55 346
	Dräger X-plore grinding visor with acetate lens	R 55 428
Dräger X-plore helmet	Dräger X-plore safety helmet with visor	R 55 347
Dräger X-plore welding	Dräger X-plore welding visor	R 55 348
	incl. welder's protection glass Class 10	
	Welder's protection lens Class 9	R 55 349
	Welder's protection lens Class 10	R 55 052
	Welder's protection lens Class 11	R 55 078
	Welder's protection lens Class 12	R 55 084
	Welder's protection lens Class 13	R 55 429
	Protection visor polycarbonate for internal and external use (10 pcs.)	R 55 118
	Welder's autodarkening protection lens variable tint (ADF 9-13 fixed)	R 55 353
	Welder's autodarkening protection lens variable tint (ADF 9-13 variable)	R 55 559

Dräger X-plore Helmets, Hoods and Visors

Accessories Dräger X-plore helmet components		
Dräger X-plore TYVEK Pull Down Protection Hood		R 55 354
Tear off protective visor for hoods and safety helmets		R 55 358
Tear off protective visor for grinder's protective visor		R 55 095
Sweat band for grinder's and welder's head gear		R 55 119
Spare visor for grinder's protective visor:	Polycarbonate	R 55 433
	Acetate lens	R 55 437
	Acetate lens green Class 5	R 55 438
Spare face seal for grinder's protection visor:	grey	R 55 434
	orange	R 55 439
Spare visor inc. face seal for safety helmet	grey	R 55 436
	orange	R 55 445

Other spares and accessories available on request.

Dräger PARAT® C

The Dräger PARAT C fire escape hood increases the chances of survival for persons who have been caught unaware by an outbreak of fire. Designed for an escape period of 15 minutes it offers the best possible protection against toxic smoke and fumes which a fire creates. The Dräger PARAT C has been successfully proved in use especially by public institutions and fire departments.



ST-241B-2003

Dräger PARAT C:
Minimum 15 minutes protection
against toxic smoke and fumes.

Prepared for an emergency

The Dräger PARAT C smoke escape hood was designed to protect the wearer during an escape from dangerous toxic smoke and fumes caused by a fire.

High performance combination filter

The CO-P2-combination filter gives 15 minutes protection against smoke, fumes and hazardous particles which occur during a fire. The unit has a total lifetime of 12 years providing that the filter is changed after six years.

Universal size

The one-size-fits-all escape hood is equipped with a textile neck seal and

offers users – even children as well as those wearing glasses and beards – the greatest possible protection when escaping.

Packaged for your application

Depending on the application the Dräger PARAT C can be packaged accordingly i.e. in a plastic box as a Traveller Pack, Soft Pack to carry with you or in a cardboard box as a single pack. A wall mounting kit can also be supplied to accommodate the Dräger PARAT C twin pack.

TECHNICAL DATA

Filter performance	Combination filter CO-P2 against fire gases, smoke and particles
Period of use	At least 15 minutes
Service	6 years maintenance free, filter change after 6 years, shelf life 12 years
Weight	Approx. 600 g
Dimensions	Dräger PARAT C Single-, Traveller-, Soft-Pack: 8 x 19 x 13.5 cm (H x L x W) Dräger PARAT C box: 18 x 19 x 8 cm (H x L x W) Dräger PARAT C Twin-Pack: 9 x 33 x 22.5 cm (H x L x W)
Approval	CE mark, tested according to EN 403

ORDER INFORMATION

Dräger PARAT C Single-Pack, in compact cardboard box	R 52 817
Dräger PARAT C Traveller-Pack, in a sturdy plastic case	R 52 818
Dräger PARAT C Soft-Pack, in handy travelling bag with zipper, easy to carry along	R 53 555
Dräger PARAT C box in robust, housing tried and tested by mining customers	R 54 461
Dräger PARAT C Twin-Pack, in a wall holder	R 52 845
Dräger PARAT training hood	R 54 105
Spare filter PARAT C (CO-P2)	67 36 192
Spare parts set (without filter)	R 25 266
Wall mounting for Dräger PARAT C Traveller-Pack	R 51 906
Carrying belt for Dräger PARAT C Traveller-Pack	R 53 205

Dräger PARAT® 3000

In case hazardous substances are present at a workplace it must be taken into account that they can suddenly occur in concentrations which can be threatening to health and life. The emergency escape filter devices Dräger PARAT 3100 and Dräger PARAT 3200 have a lifesaving task: they protect the wearer during an escape into a safe environment.



ST-1853-2005

Dräger PARAT 3100:

Protection against gases and vapours.

Reliable protection

The filtering escape devices Dräger PARAT 3100 and Dräger PARAT 3200 are designed for a 15 minute escape period. The ABEK filter offers protection against a large number of toxic gases and vapours. The filter can be easily changed as required.

Sturdy and immediately available

The easy to open design ensures that the device can be readily available in an emergency.

The robust housing is designed for severe conditions and a four year maintenance free period.

Safe handling

The Dräger Parat 3100 half mask permits even untrained personnel to apply the apparatus quickly and easily. The Dräger PARAT 3200 is fitted with a mouthpiece and nose clip combination which is especially suited for bearded wearers and offers minimal leakage.

TECHNICAL DATA

Filter performance	Gas filter against organic and inorganic gases and vapours ABEK 15 as per DIN 58647 Part 7	
Operation period	At least 15 minutes	
Shelf life	4 years maintenance free, filter change every 4 years	
	Overall life 12 years	
Weight	Dräger PARAT 3100	Approx. 360 g
	Dräger PARAT 3200	Approx. 330 g
Dimensions (L x W x H)	Dräger PARAT 3100	170 x 110 x 90 mm
	Dräger PARAT 3200	170 x 110 x 60 mm
Approval	CE mark 0158 according to DIN 58847 Part 7	

ORDER INFORMATION

Dräger PARAT 3100	R 56 311
Half mask and ABEK 15 filter	
Dräger PARAT 3200	R 56 312
Mouthpiece with nose clip and ABEK 15 filter	
Conversion sets (without filter)	
Dräger Parat 1 on the Dräger PARAT 3100	R 56 324
Dräger Parat 2 on the Dräger PARAT 3200	R 56 325
Accessories	
Training device components	
Dräger PARAT 3100 blue bottom cover	R 56 353
Dräger PARAT 3200 blue bottom cover	R 56 354
Carrying strap, white	R 28 175
Spare filter	
Spare filters ABEK 15 (set of 5)	R 56 350
Dräger PARAT 3000 security tags (in sets of 50)	R 56 355

Dräger PARAT® 4500

When dealing with dangerous substances in the work place and in spite of comprehensive safety measures it cannot be ruled out that substances will appear in health threatening concentrations. The industrial escape hood Dräger PARAT 4500 ensures a secure route to escape.



ST-1801-2005

Dräger PARAT 4500:
Industrial escape hood.

Wide range of protection

The efficient combination filter provides reliable protection against gases, vapours and particles during an escape into a safe environment. The device is designed for an escape period of at least 15 minutes.

One size fits all

Available in one universal size, the hood offers all users – even persons with glasses and beards – optimal protection.

The large visor treated with an anti-fog coating ensures clear vision and orientation during the escape.

Long life

The Dräger PARAT 4500 is designed for a lifetime of 12 years with a filter change necessary every four years – simple maintenance! The industrial escape hood is available in the practical Traveller-Pack or in a particularly robust PARAT 4500 case.

TECHNICAL DATA

Filter performance	Combined gas/particle filter against organic and inorganic gases and particles ABEK-P15 in accordance with DIN 58647 Part 7
Operating period	At least 15 minutes
Service	4 years maintenance free, filter change every 4 years, overall life 12 years
Weight	Approx. 600 g
Dimensions	Dräger PARAT 4520 Soft-Pack & Dräger PARAT 4530 Traveller-Pack: 8 x 19 x 13.5 cm (H x L x W) Dräger PARAT 4560 18 x 19 x 8 cm (H x L x W)
Approval	CE mark in accordance with DIN 58647 Part 7

ORDER INFORMATION

Dräger PARAT 4520 Soft-Pack, in handy travelling bag with zipper	R 55 520
Dräger PARAT 4530 Traveller-Pack, in a sturdy plastic case	R 55 755
Dräger PARAT 4560 box, sturdy, approved for the mining industry	R 55 760
Dräger PARAT training hood	R 54 105
Spare filter ABEK-P15 (with connection stops and straps)	R 55 567
Spare part set (without filter)	R 25 266
Wall bracket for Dräger PARAT 4530 Traveller-Pack	R 51 906
Belt strap for Dräger PARAT 4500 Traveller-Pack and Soft-Pack	R 53 205
Shoulder strap suitable for carrying strap (R 53 205)	R 53 783
Hip strap suitable for carrying belt (R 53 205)	R 53 026
Hip strap for Dräger PARAT 4560 box	67 33 934

Dräger DefendAIR®

15 Minutes of protection for escape from chemical and biological agents. The Dräger DefendAIR is designed for protection against toxic gases (incl. nerve agents, blood agents, tear gas) that may be encountered by first responders, law enforcement or emergency response personnel.



ST-486-2003

Dräger DefendAIR:
Protection against NBC warfare agents.

The hood is easy and quick to don – especially in an emergency situation. Donning time is less than 10 seconds. (The hood can be worn even by those who wear glasses or have beards or long hair.) A high level of communication is possible since there are no mouthbits or nose clips required. With an integrated half mask, the wearer can breathe and speak normally to provide life saving instructions required in these situations.

The hood is designed to provide maximum protection against the hazards by providing a protection factor of approx. 1000 and effective filtering capability plus protection from CO₂ build up. Extensive testing such as shock and vibration, package impact tests, visor fogging tests, and temperature tests ensure that the DefendAIR is ready to use.

TECHNICAL DATA

Hood material	Tyvek Type F, passed all standard NATO tests for chemical warfare protection, tested and certified by TNO in the Netherlands. Flame retardant self extinguishing	
Lens	Treated with Antimist Coating, 80% of natural field of vision retained	
Neckseal	To provide approx. 1000 Protection Factor	
Weight	Approx. 450 g (packaged in hard case) Approx. 340 g (ready to use)	
Packaged dimensions	153 mm (6.0 in) diameter, 90 mm (3.5 in) height	
Shelf life	5 years in original packaging	
Storage temperature	Not to exceed −20°C to 60°C (−4°F to 140°F)	
Maintenance	No interval maintenance is required while unit is maintained in original package	
Approval	CS/CNP 100 acc. NIOSH CFR 42 part 84 ABEP 15 acc. to DIN 58647-7	
Dräger DefendAIR filter performance		
Particulate efficiency	99.97%	
Third Party Test Results (TNO, Netherlands)		
Challenge Agent	Concentration	Service Life
DMMP	3000 mg/m³	> 22 Minutes
Sarin (GB)	3000 mg/m³	> 22 Minutes
Cyanogen Chloride (CK)	3000 mg/m³	> 25 Minutes
Additional laboratory test values:		
Ammonia	500 ppm	> 30 Minutes
Chlorine	1000 ppm	95 Minutes
Carbon Tetrachloride	1000 ppm	70 Minutes
Sulphur Dioxide	500 ppm	110 Minutes
Phosgene (CG)	1000 ppm	> 95 Minutes

Dräger DefendAIR

NIOSH Test results

Tear gas CS	3 ppm	> 8 hours
Tear gas CN	16 ppm	> 8 hours

ORDER INFORMATION

Dräger DefendAIR (CE marked)	R 55 000
Dräger DefendAIR (NIOSH)	R 54 838
Dräger DefendAIR training/demo unit	R 55 195

Dräger Saver CF

The Dräger Saver CF constant flow emergency escape breathing apparatus allows safe, effective and easy escape from hazardous environments. Extensive research and customer testing has been carried out to provide the ultimate hooded escape set.

Automatic activation

The unit is automatically activated upon opening the carrying bag and can be simply re-set in the event of a false alarm.

Made to measure

The Dräger Saver CF has been specially designed to be as easy to don as is possible, regardless of face shape or size and is suitable for users with glasses or facial hair. The easy to don flame retardant hood incorporates a wide visor for enhanced peripheral vision and a long life ozone resistant neck seal.

High visibility

The Dräger Saver CF is extremely compact in design providing greater freedom of movement. The high visibility orange carrying bag incorporates photo luminescent panels allowing the unit to be seen at very low ambient light and visibility levels.

Easy inspection

The cylinder contents gauge is clearly visible without any dismantling or adjustments to the unit due to a transparent viewing window located on the side of the bag. This allows for quick and simple cylinder contents inspection.

Economic

The pressure reducer is designed for a maintenance free period of 10 years.

Fully approved

The Dräger Saver CF provides breathing air for 10 or 15 minutes according to cylinder size and is fully approved to EN 1146 and The Marine Equipment Directive (MED).



ST-3977-2005

Dräger Saver CF:
Automatic constant
air supply under the hood.

Dräger Saver CF

ORDER INFORMATION

Compressed air emergency escape apparatus Dräger Saver CF 10 operational period: 10 minutes, equipped with an aluminium cylinder 2 litres / 200 bar, filled and without repairs carried out as per industrial safety regulations	33 50 492
Compressed air emergency escape apparatus Dräger Saver CF 15 operating period: 15 minutes, equipped with a steel cylinder 3 litres / 200 bar, filled and without repairs carried out as per industrial safety regulations	33 50 491
Spare Cylinders	
Spare compressed air cylinder CF 15 Steel cylinder 3 litres / 200 bar, empty and without repairs carried out as per industrial safety regulations	33 50 256
Spare compressed air cylinder CF 10 Aluminium cylinder 2 litres /200 bar, empty and without repairs carried out as per industrial safety regulations	33 50 255
Compressed air: fill on commissioning	
Accessories	
Antistatic bag for Dräger Saver CF 15	33 50 647
Antistatic bag for Dräger Saver CF 10	33 50 646
Saver waist belt	33 50 396
Anti-tamper tag	33 50 388
Storage case	33 50 424
Wall mounting for case	33 50 431
Spare parts	
When ordering spare parts please ask for the following spare parts list(s)	
Dräger Saver CF	E 1294.001
Dräger Saver CF valve complete	E 1294.003
Dräger Saver CF tool bag	E 1294.004
Dräger Saver CF escape hood complete	E 1294.002

Dräger Saver PP

The Dräger Saver PP compressed air emergency escape breathing apparatus offers the utmost in respiratory protection to provide safe and unhampered escape from hazardous environments where breathing has become difficult or endangered. The Dräger Saver PP comes equipped with the Dräger Panorama Nova face mask, providing low exhalation resistance, a close and comfortable fit and a self demisting visor for clear vision.



ST-3979-2005

Dräger Saver PP:
Protection on the first breath.

Automatic activation

The unit is activated when the carrying system is opened. It can be simply re-set in the event of a false alarm. The positive pressure Lung Demand Valve has a balanced piston design, is first breath activated and extremely quiet in use.

Positive pressure mask

The Dräger Panorama Nova positive pressure full mask is characterised by having a secure face seal, low breathing resistance, comfortable fit and a wide field of vision. The comfortable five point harness makes donning the mask easy.

Compact, practical design

The Dräger Saver PP is extremely compact in design providing greater freedom of movement. The high visibility orange photo luminescent carrying bag is flame retardant, washable and waterproof.

Economic

No mandatory routine service is required for a period of 10 years.

Fully approved

The Dräger Saver PP provides breathing air for 10 or 15 minutes, according to cylinder size and is fully approved to EN402 and The Marine Equipment Directive (MED).

ORDER INFORMATION

Compressed air emergency escape apparatus Dräger Saver PP 10	33 50 408
Operational period: 10 minutes, equipped with aluminium cylinder litres / 200 bar, filled and without repairs carried out as per industrial safety regulations	
Compressed air emergency escape apparatus Dräger Saver PP 15	33 50 403
Operational period: 15 minutes, equipped with steel cylinder 3 litres / 200 bar, filled and without repairs carried out as per industrial safety regulations	
Spare Cylinders	
Spare compressed air cylinder PP 15	33 50 209
Steel cylinder 3 litres / 200 bar, empty and without repairs carried out as per industrial safety regulations	
Spare compressed air cylinder PP 10	33 50 410
Full Mask	
Mask Dräger Panorama Nova for Dräger Saver PP with textile head harness	R 59 024
Accessories	
Antistatic bag for Dräger Saver PP 15	33 50 648
Antistatic bag for Dräger Saver PP 10	33 50 425
Saver waist belt	33 50 396
Anti-tamper tags	33 50 388
Storage case	33 50 424
Wall mounting for case	33 50 431

Dräger Saver PP

Spare parts

When ordering spare parts please ask for the following parts lists

Dräger Saver PP	E 1293.007
Dräger Saver PP valve complete	E 1293.005
Dräger Saver PP tool kit	E 1293.006
Dräger Saver PP pneumatics	E 1293.008
Dräger Saver PP Lung Demand Valve	E 1293.009

Dräger Oxyboks Oxygen Self Rescuer

Irrespective of the ambient air the Dräger Oxyboks is a breathing protection apparatus for self rescue from toxic or oxygen deficient atmospheres. Proven over decades in one of the most rugged workplaces in the world, that of mining, the rescuer guarantees an immediate and reliable oxygen supply for 25 minutes based on chemically bound oxygen.

Easy safe operation

The Dräger Oxyboks Oxygen Self Rescuer product family is equipped with an easily fitted mouthpiece – nose clip combination.

Sturdy and practical

The Oxyboks K Oxygen Self-Rescuer has been specially developed for emergency situations. The apparatus can be constantly carried on the user's belt without noticeably impeding normal activities thanks to the ergonomic design of the carrying case. The fact that the apparatus is worn at the head means that users can move freely even when narrow and low openings make an upright stance impossible. Wearing the apparatus at the head also means that it is

possible to change to a long-term breathing unit in a few seconds virtually without interruption of the respiratory protection. The Dräger Oxyboks can be used in temperature classes T1 and T2.

Immediately available oxygen supply

The starter contains chemically bonded oxygen in the form of sodium chlorate which releases between 6 and 8 litres of oxygen in the first few minutes.

Economic

The apparatus being part of the Dräger Oxyboks family is designed for a maintenance and service free period of 10 years.

ST-1183-2004



Dräger Oxyboks Oxygen Self Rescuer:

Suitable for the most arduous of work places.

TECHNICAL DATA

Duration (min) acc. to SABS 1737 (breathing rate 35 L/min) unstressed/ stressed	25/25	
Duration (min) at rest (breathing rate 30 L/ min)	35	
Inhalation / Exhalation resistance	at 30 L/ min flow	4 mbar
	at end of duration (30 L/ min)	max. 6 mbar
Inhalation temperature (°C) at end of duration	less than 75 °C (dry air)	
Breathing bag volume (L)	> 6 L	
Weight	unopened	approx. 2.1 kg
	while using	approx. 1.2 kg
Dimension W x H x D	205 x 189 x 89 mm	

ORDER INFORMATION

Oxyboks K 25 (training apparatus)	63 03 666
Oxyboks KT (training apparatus)	67 33 466
Training apparatus for Oxyboks K 25, as 63 03 666, but without CO ₂ cartridge and starter to teach fitting of apparatus	
Accessories	
Gas protection goggles	63 03 670
T-cooling pipe for Oxyboks KT	67 33 962
Waist strap	67 33 934

Dräger Oxy K Self Rescuer

Dräger Oxy K emergency escape sets should be carried in situations when toxic gases can be present or the atmosphere can be oxygen deficient. Based on chemically bound oxygen the self rescuer provides the wearer for 30 (Oxy K 30 series) or 50 minutes (Oxy K 50 series) with breathing air independent of the ambient air.



ST-1191-2004

Dräger Oxy K Self Rescuer:
30 or 50 minutes protection in any atmosphere.

Simple safe operation

Due to its small size and design the Dräger Oxy K Self Rescuer can be worn comfortably on the body and is easy to don. Equipped with a mouthpiece, nose clip and goggles the user is well protected during his escape.

The apparatus is suitable for temperature classes T1 to T4 and is approved in accordance with DIN EN 13794.

Instant oxygen supply

By means of the quick starter cartridge users will be supplied with oxygen immediately after fitting. The readiness for use is always visible from the outside through the service indicator.

Economic

The apparatus from the Oxy K family is designed for a maintenance and service free period of 10 years.

Various designs

The Dräger Oxy K series is available in two durations (30 or 50 minutes of escape) as shoulder strap version, with an antistatic breathing bag as an option. A wall mounted version is also available.

TECHNICAL DATA

	Oxy K 50 S (AS)	Oxy K 30 S (AS)	Oxy K 30 E
Duration (min) acc. to DIN EN 13794 (breathing rate 35 litres/min)	50	30	30
Duration (min) at rest (breathing rate 10 litres/min)	180	120	120
Inhalation/Exhalation resistance (hPa) (breathing rate 35 litres /min)	5.0	5.0	5.0
Inhalation temperature (°C)	max. 55	max. 55	max. 55
Breathing bag volume (litres)	6	6	6
Weight (kg)			
– unopened	Approx. 3.0	App. 2.5	Approx. 3.1
– in use	Approx. 2.4	App. 1.9	Approx. 2.1
Dimensions (mm) (H x W x D)	210 x 260 x 105	210 x 260 x 95	240 x 257 x 112

Dräger Oxy K Self Rescuer

ORDER INFORMATION

Dräger Oxy K 30 S	(Shoulder strap)	63 03 000
Dräger Oxy K 30 AS	(Shoulder strap, with antistatic breathing bag)	63 03 100
Dräger Oxy K 30 ST	(Shoulder strap, training apparatus)	63 03 001
Dräger Oxy K 50 S	(Shoulder strap)	63 03 500
Dräger Oxy K 50 AS	(Shoulder strap, with antistatic breathing bag)	63 03 058
Dräger Oxy K 50 ST	(Shoulder strap, training apparatus)	63 03 501
Dräger Oxy K 30 E	(Wall mounting)	63 01 900
Dräger Oxy K 30 ET	(Wall mounting training apparatus)	63 01 902

Dräger Oxy K 30 HW/HS Oxygen Self Rescuer

Dräger Oxy K 30 HW/HS should be carried when toxic gases can be present or the atmosphere can be oxygen deficient. Dräger Oxy K 30 HW/HS is an oxygen self rescuer, independent of the ambient air, which uses chemically-bound oxygen. A quick starter cartridge provides an instant oxygen supply on donning.

Special features of the hood version:

The hood provides head, face and eye protection against smoke and heat. It allows for verbal communication, an important component for leaving dangerous situations. The unit is suitable for people wearing glasses and is easy to don and breathe.

Dräger Oxy K 30 HW/HS is suitable for use in transportation (railway, hazardous material), shipping, sewage, tunnelling, drilling platforms and petro-chemical industry.

Dräger Oxy K 30 HW/HS is up to 10 years free of maintenance and service.

The hood version is available in two versions:

The wall mounted version (HW)

ensures a quick operational readiness since disassembly from the wall and opening of the unit will take place in one step. It can be positioned ready for use on walls along escape routes.

The shoulder strap version (HS)

can be installed in vehicles or carried by potential users.

Our service to you: We will dispose damaged, opened, used or expired oxygen self rescuers for you.

ST-3475-2003



Dräger Oxy K 30 HS:
Shoulder strap version.

TECHNICAL DATA

Duration according to DIN 58639 (breathing rate 35 L/min)	30 min	
Duration (breathing rate 10 L/min)	120 min	
Inhalation- / exhalation resistance (breathing rate 35 L/min)	5.0 hPa	
Inhalation temperature	max. 55 °C	
Service indicator	readiness for use immediately visible from the outside	
Housing	electrically conductive	
Temperature classification	T4	
Approval	according to DIN 58639; SOLAS, MED	
Weight	HW	HS
- unopened	approx. 3.5 kg	approx. 2.8 kg
- in use	approx. 2.5 kg	approx. 2.2 kg
Dimensions	227 x 265 x 118 mm	210 x 260 x 105 mm

ORDER INFORMATION

Dräger Oxy K 30 HW	(wall mounted)	63 04 600
Dräger Oxy K 30 HWT	(training unit, wall mounted)	63 04 601
Dräger Oxy K 30 HS	(shoulder strap)	63 04 700
Dräger Oxy K 30 HST	(training unit, shoulder strap)	63 04 701

Dräger PAS Colt

With a combination of excellent user friendly operation and the latest technology in the field of respiratory protection apparatus the Dräger PAS Colt is one of the most highly developed short duration compressed air breathing apparatus to use and for use as emergency rescue apparatus for compressed airline equipment.

Because of its modular construction the Dräger PAS Colt is suitable for a wide range of applications and environments.



ST-3557-2003

Dräger PAS Colt:

Comfortable to carry on the hip.

User friendly and comfortable

The Dräger PAS Colt is carried on the hip and is quick and easy to don.

Equipped with a unique "drop-down-function" the compressed air cylinder can be unlocked very quickly when required to be carried in front of the body. As a result the equipment is ideal for use in confined spaces.

Robust, flexible straps

The highly flexible antistatic material offers great resistance to chemicals and oils as well as acids and alkalis. Thanks to its high resistance to friction and heat this carrying system meets the highest demands with regard to heat and flame resistance.

The straps are easily adjusted and follow

the contour of the equipment in order to minimise the risk of snagging.

Innovative pneumatics

The pneumatics included in this system are based on the DrägerMan PSS generation which has proved itself in fire services worldwide.

Flexible to use

The Dräger PAS Colt apparatus is approved for use as a short term compressed air breathing apparatus (EN137) (equipped with gauge and warning whistle) or for emergency rescue equipment (EN402) with an integrated lung demand valve for compressed airline equipment.

TECHNICAL DATA

Approval	EN 139/EN 402	EN 137
Dimensions (without cylinder)		
H x W x D – min. (mm)	790 x 500 x 70	550 x 500 x 70
H x W x D – max. (mm)	950 x 500 x 70	640 x 500 x 70
Weight (kg), without cylinder	2	2.5
Input pressure cylinder (bar)	200 or 300	200 or 300
Input pressure airline (bar)	6 – 9	6 – 9
Nominal 1 st stage output pressure (bar)	7	7
1 st stage output flow (litres / min.)	> 600	> 600
Lung demand valve output flow (litres / min)	> 400	> 400
Warning whistle activating pressure	* 4 – 5	55 – 60
Warning whistle sound level (dBA)	* > 90	> 90
Warning whistle frequency range (Hz)	* 2000 – 4000	2000 – 4000
Operational temperature range (°C)	- 32 to + 70	- 32 to + 70

*Warning whistle for EN 402 unit located as an option on the Airline belt manifold.

Dräger PAS Colt

ORDER INFORMATION

Dräger PAS Colt as per EN 139 as a rescue compressed air breathing apparatus

Dräger PAS Colt (2 L / 200 bar) EN 139, without lung demand valve, without compressed air cylinder	33 53 354
Dräger PAS Colt (3 L / 200 bar) EN 139, without lung demand valve, without compressed air cylinder	33 53 355
Dräger PAS Colt (2 L / 300 bar) EN 139, without lung demand valve, without compressed air cylinder	33 53 356
Dräger PAS Colt-A (2 L / 200 bar) EN 139, with integrated lung demand valve, positive pressure connection, without comp. air cylinder	33 52 626
Dräger PAS Colt-A (3 L / 200 bar) EN 139, with integrated lung demand valve, positive pressure connection, without comp. air cylinder	33 52 413
Dräger PAS Colt-A (2 L / 300 bar) EN 139, with integrated lung demand valve, positive pressure connection, without comp. air cylinder	33 52 627

Belt set as per EN 139

Dräger PAS Colt Belt set with low pressure warning whistle	33 52 948
Dräger PAS Colt Belt set without low pressure warning whistle	33 52 947

Optional compressed air cylinder for Dräger PAS Colt

Rescue compressed air breathing apparatus as per EN 139

2 L / 200 bar aluminium cylinder with fill level indicator at valve.	R 45 017
3 L / 200 bar steel cylinder with fill level indicator at valve	R 45 018
2 L / 300 bar CFK cylinder with fill level indicator at valve	R 45 029

Other accessories for Dräger PAS Colt as per EN 139

Low pressure warning whistle	33 53 358
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Dräger PAS Colt as short term compressed air breathing apparatus as per EN 137

Dräger PAS Colt (3 L / 200 bar) EN 137, without lung demand valve, without compressed air breather	33 52 634
Dräger PAS Colt (3 L / 300 bar) EN 137, without lung demand valve, without compressed air breather	33 52 920

Accessories for Dräger PAS Colt as per EN 137 (optional)

Connection for hose equipment without low pressure warning whistle	33 52 564
Connection for hose equipment with low pressure warning whistle	33 52 565

Cylinders for Short term compressed air breathing apparatus as per EN 137

3 L / 200 bar steel cylinder without fill level indicator	R 45 022
3 L / 300 bar CFK cylinder without fill level indicator	R 45 023

Dräger PAS Micro

Dräger Safety offers to the market the Dräger PAS Micro compressed air breathing apparatus. Combining versatility, ease of use and the latest in breathing apparatus design, Dräger's PAS Micro is among the most technologically advanced short duration and emergency escape units available.

ST 3559-2003



Dräger PAS Micro:
Respiratory protection
apparatus carried on the back.

User friendly and comfortable

A back-mounted unit using a similar carrying system configuration as traditional harness designs.

The Dräger PAS Micro is ergonomically designed to follow the natural contours of the back, increasing wearer comfort and stability during use.

Robust, flexible strap system

The harness has been constructed using an antistatic material inert to chemicals and oil, and impervious to most acids and alkalis. Benefiting from a high resistance to abrasion and heat, this new harness meets the requirements of EN137 heat and flame resistance. The straps are easily adjusted and follow the contour of the equipment to reduce the risk of snagging.

Innovative pneumatics

The pneumatics included in this system are based on the DrägerMan PSS generation which has proved itself in fire service use worldwide.

Flexible to use

The Dräger PAS Micro is approved for use as a short term compressed air breathing apparatus (EN137) (equipped with gauge and warning whistle) or for emergency rescue equipment with (EN402) integrated lung demand valve for compressed airline equipment.

TECHNICAL DATA

Approval	EN 139/EN 402	EN 137
Dimensions (without cylinder)		
H x W x D – Min. (mm)	550 x 300 x 80	550 x 300 x 80
H x W x D – Max. (mm)	650 x 300 x 80	650 x 300 x 80
Weight (kg), without cylinder	2	2.5
Input pressure cylinder (bar)	200 or 300	200 or 300
Input pressure airline (bar)	6 – 9	6 – 9
Nominal 1 st stage output pressure (bar)	7	7
1 st stage output flow (litres / min.)	> 600	> 600
Lung demand valve output flow (litres / min)	> 400	> 400
Warning whistle activating pressure	* 4 – 5	55 – 60
Warning whistle sound level (dBA)	* > 90	> 90
Warning whistle frequency range (Hz)	* 2000 – 4000	2000 – 4000
Operational temperature range (°C)	- 32 to + 70	- 32 to + 70

*Warning whistle for EN 402 unit located as an option on the Airline belt manifold.

Dräger PAS Micro

ORDER INFORMATION

Dräger PAS Micro as per EN 139 as rescue compressed air breathing apparatus		
Dräger PAS Micro EN 139,	without lung demand valve, without compressed air cylinder	33 53 357
Dräger PAS Micro-A EN 139,	with integrated positive pressure lung demand valve, without compressed air cylinder	33 52 925
Optional compressed air cylinders for Dräger PAS Micro		
Rescue compressed air breathing apparatus as per EN 139		
2 litres / 200 bar aluminium cylinder with fill level indicator at the valve		R 45 017
3 litres / 200 bar steel cylinder with fill level indicator at the valve		R 45 018
2 litres / 300 bar CFK cylinder with fill level indicator at the valve		R 45 029
Other accessories for Dräger PAS Micro as per EN 139		
Low pressure warning whistle		33 53 358
Optional accessories for Dräger PAS Micro-compressed air cylinders		
Cylinder cover for compressed air cylinder 2 litre / 200 bar		33 53 089
Cylinder cover for compressed air cylinder 3 litre / 200 bar		33 53 090
Cylinder cover for compressed air cylinder 2 litre / 300 bar		33 53 088
Cylinder cover for compressed air cylinder 3 litre / 300 bar		33 53 091
Dräger PAS Micro as short term compressed air breathing apparatus as per EN 137		
Dräger PAS Micro as per EN 137		33 52 640
Accessories for Dräger PAS Micro as per EN 137 (optional)		
Connection for hose equipment, without low pressure warning whistle		33 52 438
Connection for hose equipment, with low pressure warning whistle		33 52 648
Optional compressed air cylinders for Dräger PAS Micro		
Short term compressed air breathing apparatus as per EN 137		
3 litre / 200 bar steel cylinder without fill level indicator		R 45 022
3 litre / 300 bar CFK cylinder without fill level indicator		R 45 023

Dräger PA 91 plus

The Dräger PA 91 plus is yet another compressed air breathing apparatus from the successful PA 90 plus product family. The Dräger PA 91 Plus breathing apparatus is ideal for use when working in environments where fire and smoke, toxic gases or a lack of oxygen is present. Approved in accordance with EN 137:1993 and the Marine Equipment Directive (MED), the apparatus is supplied complete with lung demand valve.

ST-389-2000



Dräger PA 91 plus:
Reliable and comfortable.

Increased comfort

The ergonomically designed carrying system follows the contours of the back, ensuring the weight of the set is concentrated on the hips and therefore reducing the risk of back strain and fatigue.

Flexible cylinder buckle strap

The carrying system incorporates an adjustable cylinder strap, which can accommodate cylinders of all sizes from 4 litres up to 9 litres in capacity. The strong polyester strap can also accommodate a twin pack cylinder arrangement as an option.

Robust carrying system

The back plate is constructed using a strong, moulded, composite polyamide material with carbon fibre and is anti-static, chemical and impact resistant providing a light and extremely robust back plate which is flame resistant.

Pressure reducer

Equipped with a pressure reducer, proven over the years, the Dräger PA 90 plus family apparatus guarantees high performance air supply and a constant medium pressure, which ensures ease of breathing.

Lung demand valve

The Dräger positive pressure lung demand valve is of a balanced piston design and is first breath activated. This provides a stable air supply with low breathing resistance and is extremely quiet in use. The lung demand valve also features a centrally positioned, easily located, positive pressure 'switch off' push button.

ORDER INFORMATION

PA 91 plus, Push In, Fixed LDV	33 50 683
PA 91 plus with QRC	33 53 260

Dräger PA 94 plus Basic

The Dräger PA 94 plus Basic, is a compressed air breathing apparatus from the Dräger PA 90 plus product family. Designed for use as a single or twin cylinder apparatus, it is suitable for use in the fire service as well as industry. With a high degree of reliability and comfort it has proven itself in thousands of applications and is therefore one of the most cost effective respiratory protection devices of its generation. Approved in accordance with EN 137.



ST-2448-2003

Dräger PA 94 plus Basic:
Reliable, comfortable and
cost effective.

Increased comfort

The ergonomically shaped carrying frame ensures a perfect fit whilst the comfortable padded shoulder straps and waist belt can be adjusted individually.

The entire carrying system is heat and chemical resistant.

Universal cylinder buckle strap

The Nomex™ material universal cylinder strap is easily adjustable for a variety of cylinder combinations. The practical cam lock fastener ensures that the cylinders are securely fitted.

Robust carrying frame

The carrying frame is light and extremely robust, is a good conductor of electricity and is resistant to high temperatures and chemicals.

Pressure reducer

Equipped with a pressure reducer, proven over the years, the Dräger PA90 range of apparatus guarantees adequate air supply and a constant medium pressure which ensures that ease of breathing is maintained.

Removable lung demand valve

The lung demand valve is detachable. Together with the Dräger PSS® N or the Dräger PSS® AE lung demand valve the Dräger PA 94 plus is approved for the fire service.

ORDER INFORMATION

Dräger PA94 Plus Basic, DB M45 LDV	33 50 688
Dräger PA94 Plus Basic, Padded Assembly, Push In, Fixed LDV	33 50 692
Dräger PA94 Plus Basic, Push In, Fixed LDV	33 50 687
Dräger PA94 Plus Basic, DB M40 LDV	33 50 689
Dräger PA94 Plus Basic, DB Push in LDV	33 50 691
Dräger PA94 Plus Basic, Low Temperature	33 54 656

Dräger ProAir® Evolution

The ProAir Evolution compressed air breathing apparatus offers a high degree of reliability and comfort for a variety of industrial uses and meets the requirements of US-Industry NIOSH approval.



ST-591-2006

Dräger ProAir Evolution
Reliable, comfortable and
cost effective.

High degree of comfort

The ergonomically shaped carrying system follows the contours of the back ensuring the weight of the breathing apparatus set is concentrated on the hips and therefore reducing the risk of back strain and fatigue, whilst the comfortable padded shoulder straps and waist belt can be adjusted independently.

Universal cylinder buckle strap

The Dräger ProAir Evolution is designed as a single cylinder device and therefore is suitable for all standard cylinder sizes which are secured by means of a practical buckle strap.

Robust carrying system

The back plate is constructed using a strong, moulded, composite polyamide material with carbon fibre and is antistatic, chemical and impact resistant. The complete harness is flame retardant.

Pneumatics

Reliable breathable air supply:
The lung demand valve is activated with the first breath whilst the universally proven pressure reducer guarantees a high flow of air as well as a constant medium pressure to facilitate ease of breathing.

High compatibility

The Dräger ProAir Evolution can be combined with all Dräger Panorama Nova full face masks.

TECHNICAL DATA

Approvals	NIOSH/MSHA
Operating temperature	-32 °C to 70 °C/-25 °F to 160 °F
Lung demand valve, mask mounted regulator (2 nd stage pressure reducer): Flow rate	> 550 lpm
Activation	On first breath
Bypass	Press or turn to lock
Connection	Positive lock plug-in
1 st stage pressure reducer: Flow rate	> 1000 lpm
Medium pressure	90 – 130 psi
Dimensions:	Lx W x D inches 24.5 x 12.5 x 6.0 (less cylinder)
	Lx W x D centimetres 62 x 32 x 15 (less cylinder)
Warning whistle	> 90 dBA Non-aspirating Chest mounted

ORDER INFORMATION

Dräger ProAir Evolution 2216 psi (Fixed PI LDV with Bypass)	33 37 840
Dräger ProAir Evolution 4500 psi (Fixed PI LDV with Bypass)	33 37 842

DrägerMan PSS® 90

Designed to endure, equipment is expected to perform in harsh environments which today's fire and rescue professionals encounter. The DrägerMan PSS 90 combines innovative technology and optimal comfort to provide a performance you can count on.



ST-9830-2005

DrägerMan PSS 90:

Worldwide success when used by professionals.

Comfort

The ergonomic design of the back plate provides the wearer with freedom of movement and the highest degree of comfort. Following the natural contours of the back and attached securely to the fully padded waistbelt assembly, the result is a carrying system which ensures that the weight of the apparatus and cylinders is concentrated on the hips – thereby reducing backstrain, stress and fatigue.

Adaptable

The DrägerMan PSS 90 will accommodate all common cylinder configurations from a single 4.0 litre steel to Dräger's own manufactured twin 9.0 litre carbon composite cylinders, with only a minor adjustment to the Nomex cylinder band which incorporates a cam lock design locking mechanism.

Robust

All DrägerMan PSS generation compressed air breathing apparatuses are characterised by being manufactured to a high degree of chemical, heat and flame resistance. DrägerMan PSS 90 is fully designed and tested to comply with the highest flame engulfment standards as required by EN137, part 2.

Pneumatics

Utilises the 'Plus' pneumatic system, requiring minimum maintenance year on year.

The pressure reducer guarantees a constant medium pressure and high flow rate – even when supplying two people.

The DrägerMan PSS 90 is available with a traditional pneumatic gauge or complete with the fully electronic signal and warning device Bodyguard II.

ORDER INFORMATION

DrägerMan PSS90 with gauge

Black harness (requires short hose LDV)

DrägerMan PSS90 G5/8" connection (single cylinder strap)	33 51 291
DrägerMan PSS90 G5/8" connection	33 51 290
DrägerMan PSS90 (metal waistbelt buckle – single cylinder strap)	33 54 690
DrägerMan PSS90 ChargaAir	33 53 825

DrägerMan PSS90 with Bodyguard II

Black harness (requires short hose LDV)

DrägerMan PSS90 Single Cylinder strap BG II (Tally) G 5/8" connection	33 51 296
DrägerMan PSS90 Single Cylinder strap BG II (Auto) G 5/8" connection	33 51 293
DrägerMan PSS90 Twin Cylinder strap BG II (Tally) G 5/8" connection	33 51 297
DrägerMan PSS90 Twin Cylinder strap BG II (Auto) G 5/8" connection	33 51 292

Short hose LDVs

Plus LDV Short hose Push in	33 38 700
Plus LDV M40 1.75 m (rescue only)	33 50 606

Accessories

For use with Dräger PA90 Plus/PSS90 Series

Personal Line Loop	33 34 968
Shoulder D Ring Loop	33 35 241
Filling hose for ChargaAir 1.5 metre with gauge (G5/8")	33 36 641

DrägerMan PSS 90

Filling hose for ChargAir 3 metre with gauge (G5/8")	33 36 642
Filling hose for ChargAir 7.5 metre with gauge (G5/8")	33 36 643
Filling hose for ChargAir 1.5 metre (G5/8")	33 36 645
Filling hose for ChargAir 3 metre (G5/8")	33 36 646
Filling hose for ChargAir 7.5 metre (G5/8")	33 36 647
Airline Belt Manifold (airline use only)	33 37 600
Second LDV/Decontamination hose QRC Female (rescue only)	33 37 650
Decontamination Hose QRC Male	33 37 652
"T" Piece (2 x 6.8 L / 300 bar carbon cylinders)	33 37 660
Twin Pack Kit (2 x 6.8 L / 300 bar carbon cylinders)	33 37 662
ChargAir Kit (Dräger Service Only)	33 37 700
Twin Pack Kit (2 x 9 L / 200 bar carbon cylinders)	33 39 126
Chest Strap	33 39 280
Negative Connection Piece (2 x 4 L / 200 bar cylinders)	33 39 615
Pull forward Belt Assembly - Metal Buckle	33 50 394
Upgrade kit – non return	33 50 240
BA Set Carry case (Holds 1 set / cylinders / facemask)	33 35 412

Dräger AirBoss Evolution® Plus SCBA

No compromise safety for fire fighters: The NFPA and NIOSH approved Dräger AirBoss Evolution Plus SCBA combines the latest technology and mobility for the wearer. The robust compressed air breathing apparatus is designed to cope even in the most extreme conditions.



ST-2448-2003

Dräger AirBoss Evolution Plus SCBA:

Proven in professional use.

Carrying system

Ergonomically designed back plate ensures optimal comfort whilst the innovative carrying system provides a high degree of mobility. The strong carbon composite material provides the back plate with durability. Buckle connections ensure that, even when wearing thick protective gloves the breathing apparatus can be easily removed. Easily adjustable shoulder and waist strap provide the wearer with optimal safety. The Dräger AirBoss SCBA is compatible with all Dräger Panorama Nova full face masks.

Pneumatics

The Plus LDV provides improved handling and ease of use in a streamlined housing and is easy to service, clean and disinfect. The pressure reducer guarantees a constant medium pressure and high flow rate – even when supplying two people.

Dräger Sentinel™ II

The Dräger AirBoss Evolution Plus SCBA is equipped with a fully electronic signal and warning device, the Dräger Sentinel II, which makes information for firefighters readily available and easily readable on a large illuminated display.

TECHNICAL DATA

Approvals	NIOSH/MSHA certified	
	NFPA compliant to standard 1981 / 1997 edition (with Dräger Sentinel)	
	IPASS II or Dräger Sentinel compliant to 1982 / 1998 edition	
Operating temperature	- 32 °C to 70 °C / - 25 °F to 160 °F	
	NFPA- 1981 Flame Test (2000 °F for 10 seconds)	
Pressure demand regulator		
Flow rate	> 550 lpm	
Activation	First breath	
Bypass	Press or turn to lock	
Connection	Positive lock plug-in	
Pressure reducer		
Flow rate	> 1000 lpm	
Medium pressure	90 – 130 psi	
Warning whistle	> 90 dBA	
	Non-aspirating	
	Chest mounted	
Dimensions	Length	approximately 24.5 in
	Width	approximately 12.5 in
	Height	approximately 6 in (less cylinder)

Dräger AirBoss Evolution Plus SCBA

Weight (approximate)	Basic Unit with Mask	Full Cyl. Weight	Unit Weight*
4500 psig / 60 min Carbon	8.7 lbs	17.6 lbs	26.3 lbs
4500 psig / 45 min Carbon	8.7 lbs	13.8 lbs	22.5 lbs
4500 psig / 30 min Carbon	8.7 lbs	10.7 lbs	19.4 lbs
4500 psig / 45 min Composite	8.7 lbs	20.3 lbs	29.0 lbs
4500 psig / 30 min Composite	8.7 lbs	12.7 lbs	21.4 lbs
2216 psig / 30 min Composite	8.7 lbs	13.2 lbs	21.9 lbs
2216 psig / 30 Hoop wrapped	8.7 lbs	16.1 lbs	24.8 lbs
2216 psig / 30 min Aluminium	8.7 lbs	21.3 lbs	30.0 lbs
2216 psig / 30 min Carbon	8.7 lbs	11.3 lbs	20.0 lbs

*Basic unit with mask and cylinder

ORDER INFORMATION

Dräger AirBoss Evolution (back plates, HUD transmitter only, lung demand valve, no mask, no cylinder)

High Pressure 4500 psi (with gauge)	40 56 840
High Pressure 4500 psi (with gauge, 12" BB)	40 56 643
High Pressure 4500 psi (with gauge, comfort pad / Quick Release Coupling)	40 56 841
High Pressure 4500 psi (with gauge, comfort pad / Quick Release Coupling, 12" BB)	40 56 644
High Pressure 4500 psi (with gauge, Super I-Pass II, comfort pad / Quick Release Coupling)	40 56 645
High Pressure 4500 psi (with gauge, Super I-Pass II, comfort pad / Quick Release Coupling, 12" BB)	40 56 646
High Pressure 4500 psi (with Dräger Sentinel II, comfort pad / Quick Release Coupling)	40 56 847
High Pressure 4500 psi (with Dräger Sentinel II, comfort pad / Quick Release Coupling, 12" BB)	40 56 654
Low Pressure 2216 psi (with gauge)	40 56 838
Low Pressure 2216 psi (with gauge, 12" BB)	40 56 639
Low Pressure 2216 psi (with gauge, comfort pad / Quick Release Coupling)	40 56 839
Low Pressure 2216 psi (with gauge, comfort pad / Quick Release Coupling, 12" BB)	40 56 640
Low Pressure 2216 psi (with gauge, Super I-Pass II, comfort pad / Quick Release Coupling)	40 56 641
Low Pressure 2216 psi (with gauge, Super I-Pass II, comfort pad / Quick Release Coupling, 12" BB)	40 56 642
Low Pressure 2216 psi (with Dräger Sentinel II, comfort pad / Quick Release Coupling)	40 56 846
Low Pressure 2216 psi (with Dräger Sentinel II, comfort pad / Quick Release Coupling, 12" BB)	40 56 653

SCBA Cylinders

30-minute 2216 psi Aluminium with Valve	40 54 856
30-minute 2216 psi Carbon Composite with Valve	40 55 701
30-minute 4500 psi Carbon Composite with Valve	40 55 700
45-minute 4500 psi Carbon Composite with Valve	40 55 698
60-minute 4500 psi Carbon Composite with Valve	40 55 699

DrägerMan PSS® 100

The DrägerMan PSS 100 offers optimal comfort with the highest level of safety and reliability. Even under the most extreme conditions the carrying system allows the wearer to work safely and effectively with minimal strain.

ST-6704-2005



DrägerMan PSS 100:
Highest degree of comfort
when carrying cylinders.

Excellent comfort

The ergonomically designed back plate means weight distribution is positioned at the hips close to the body's centre of gravity to provide further comfort and prevent physical damage to the wearer. Secure padding on the shoulder straps and waist pad provide the highest degree of comfort and ensure they will not twist.

Three point adjustable carrying system

The DrägerMan PSS 100 is designed to follow the natural contours of the back, increasing wearer comfort and stability during use, constructed from a strong, carbon composite material, anti-static and highly resistant to impact, chemicals, flames and high temperatures.

All components of the carrying system are fully compliant with the requirements of NFPA 1981:2002, EN137 in terms of heat, flame and flame engulfment testing. These standards are recognised to be the highest in the world.

Easy operation

The patented waist belt can slide and move through up to 30° in both directions when fitted to the carrying system, which with only three fixing points is absolutely secure.

The improved shoulder yoke design, also constructed from a carbon composite material, provides greater comfort and security in the positioning of the shoulder pads and removes the need for a chest strap.

Another significant improvement is the shoulder adjusting buckle, especially designed to eliminate twisting of the adjusting strap to give greater ease of adjustment and increased security allowing the set to be donned and doffed with greater speed and ease in confined situations.

Universal cylinder strap

The Nomex material universal cylinder strap is easily adjustable for a variety of cylinder combinations. The practical cam lock fastener ensures that the cylinders are securely fitted.

Pneumatics

The Plus LDV provides improved handling and ease of use in a streamlined housing and is easy to service, clean and disinfect. The DrägerMan PSS 100 is available with a traditional pneumatic gauge or complete with the fully electronic signal and warning device Bodyguard II.

DrägerMan PSS 100

TECHNICAL DATA

	DrägerMan PSS100 Standard Gauge	DrägerMan PSS100 Bodyguard
Weight (kg)	3.533	3.675
Input pressure cylinder (bar)	200 or 300	200 or 300
Nominal 1st stage output pressure (bar)	8	8
1st stage output flow (L/min)	>1000	>1000
High pressure whistle activation pressure (bar)	50 – 60	55 – 60
Airline whistle activation pressure (bar)	4 – 5	4 – 5
Whistle sound level (dBA)	> 90	> 90
Whistle frequency range (Hz)	2000 – 4000	2000 – 4000
DrägerMan Bodyguard sound level (Distress alarm)	N/A	102 – 112 dBA
Operating temperature range (°C)	- 32 to + 70	- 32 to + 70

ORDER INFORMATION

DrägerMan PSS 100	
DrägerMan PSS 100 Bodyguard II	33 51 430
DrägerMan PSS 100 Bodyguard II Tally	33 51 315
DrägerMan PSS 100	33 51 307
DrägerMan PSS 100 (Germany)	33 51 308
DrägerMan PSS 100 ChargAir Bodyguard II	33 53 896
DrägerMan PSS 100 ChargAir Standard Gauge	33 53 895
DrägerMan PSS 100 Flashing Gauge	33 51 602
DrägerMan PSS 100 Twin Pack	33 51 461
DrägerMan PSS 100 Twin Pack Bodyguard II	33 51 462
DrägerMan PSS 100 Twin Pack Bodyguard II Tally Version	33 51 463
Accessories	
DrägerMan Bodyguard II – Tally Mode	33 50 820
DrägerMan Bodyguard II	33 50 821
IR Link II Software CD Kit	33 51 342
Push in Short Hose Lung Demand Valve	33 38 700
M40, Normal Demand Short Hose Lung Demand Valve	33 50 501
M40, Normal Demand (1.75 m Hose) Lung Demand Valve	33 50 606
Dräger Panorama Nova P (EPDM)	R 52 972
Dräger Panorama Nova RA (M40) EPDM	R 52 850
Dräger Panorama Nova (Silicone)	R 53 070
Waistbelt with Metal Centre Buckle	33 51 277
Personal Line Loop	33 34 968
Shoulder D Ring Loop	33 35 241
Airline Belt Manifold (for use with airline only)	33 37 600
Second LDV Connection, Female Decontamination Hose	33 37 650
Decontamination Hose, Quick Release Male	33 37 652
"T" Piece (for 2 x 6.8 Litre 300 bar carbon cylinders)	33 37 662
Inverted "Y" Piece (for 2 x 4.0 Litre 200 bar cylinders)	33 39 615
LDV Retainer (Push In)	33 39 633

Dräger AirBoss PSS 100® Plus SCBA

The NFPA - and NIOSH approved Dräger AirBoss PSS 100 Plus SCBA, combines innovative technology and optimal comfort for professional firefighter use.



ST-2449-2003

Dräger AirBoss PSS 100 Plus SCBA:

Tailor made comfort for professional use.

Comfort

The Dräger AirBoss PSS 100 is ergonomically designed to eliminate weight stress on the wearer's back and shoulders. The Dräger AirBoss PSS 100 takes the load off the users back by carrying the unit's weight completely on the hips, reducing back strain while maintaining ease of movement. Easily adjustable shoulder and waist straps provide optimal fitting of the apparatus.

Back plate

The unique three point height adjustable back plate permits the user to achieve a tailor made fit with any torso length. The back plate is extremely robust, constructed from a strong carbon composite material, anti-static and highly resistant to impact, chemicals, flames and high temperatures.

Easy operation

The Dräger AirBoss PSS 100 takes the load off the user's back by carrying the unit's weight completely on the hips, reducing back strain while increasing stability. It moves with the wearer, both vertically through the unique two piece back

plate and horizontally by a swivel waste belt. This increased flexibility allows the wearer to work effortlessly, more effectively and longer.

Pneumatics

The Plus LDV provides improved handling and ease of use in a streamlined housing and is easy to service, clean and disinfect.

The Dräger AirBoss PSS 100 is available with a traditional pneumatic gauge or complete with the fully electronic signal and warning device Dräger Sentinel™ II.

Dräger Sentinel™ II

The Dräger AirBoss PSS 100 is equipped with a fully electronic signal and warning device, the Dräger Sentinel II, which makes information for firefighters readily available and easily readable on a large illuminated display.

All round compatibility

The Dräger AirBoss PSS 100 Plus SCBA is compatible with the full range of Dräger Panorama Nova full face masks.

Dräger AirBoss PSS 100 Plus SCBA

TECHNICAL DATA

Approvals	NIOSH/MSHA certified		
	NFPA compliant to standard 1981 / 1997 edition (with Dräger Sentinel)		
	IPASS II or Sentinel compliant to 1982 / 1998 edition		
Operating temperature	- 32 °C to 70 °C / - 25 °F to 160 °F		
	NFPA 1981 Flame Test (2000 °F for 10 seconds)		
Pressure demand regulator			
Flow rate	> 550 lpm		
Activation	First breath		
Bypass	Press or turn to lock		
Connection	Positive lock plug-in		
Pressure reducer			
Flow rate	> 1000 lpm		
Medium pressure	90 – 130 psi		
Warning whistle	> 90 dBA		
	Non-aspirating		
	Chest Mounted		
Dimensions Dräger AirBoss PSS 100 Plus	Length	approximately 28.5 in Fully extended	
	Width	approximately 11 in	
	Height	approximately 7 in (less cylinder)	
Weight (approx.)			
Cylinder	Basic Unit with Mask	Full Cylinder Weight	Unit Weight*
4500 psig / 60 min Carbon	9.1 lbs	17.6 lbs	26.7 lbs
4500 psig / 45 min Carbon	9.1 lbs	13.8 lbs	22.9 lbs
4500 psig / 30 min Carbon	9.1 lbs	10.7 lbs	19.8 lbs
4500 psig / 45 min Composite	9.1 lbs	20.3 lbs	29.4 lbs
4500 psig / 30 min Composite	9.1 lbs	12.7 lbs	21.8 lbs
2216 psig / 30 min Composite	9.1 lbs	13.2 lbs	22.3 lbs
2216 psig / 30 Hoop wrapped	9.1 lbs	16.1 lbs	25.2 lbs
2216 psig / 30 min Aluminium	9.1 lbs	21.3 lbs	30.4 lbs
2216 psig / 30 min Carbon	9.1 lbs	11.3 lbs	20.4 lbs

*Basic unit with mask and cylinder

Dräger AirBoss PSS 100 Plus SCBA

ORDER INFORMATION

Dräger AirBoss PSS 100 Plus (back plates, HUD transmitter only, lung demand valve, no mask, no cylinder)	
High Pressure 4500 psi (with gauge, comfort pad / Quick Release Coupling)	40 56 843
High Pressure 4500 psi (with gauge, comfort pad / Quick Release Coupling, 12" BB)	40 56 650
High Pressure 4500 psi (with gauge, Super I-Pass II, comfort pad / Quick Release Coupling)	40 56 651
High Pressure 4500 psi (with gauge, Super I-Pass II, comfort pad / Quick Release Coupling, 12" BB)	40 56 652
High Pressure 4500 psi (with Dräger Sentinel II, comfort pad / Quick Release Coupling)	40 56 845
High Pressure 4500 psi (with Dräger Sentinel II, comfort pad / Quick Release Coupling, 12" BB)	40 56 656
Low Pressure 2216 psi (with gauge, comfort pad / Quick Release Coupling)	40 56 842
Low Pressure 2216 psi (with gauge, comfort pad / Quick Release Coupling, 12" BB)	40 56 647
Low Pressure 2216 psi (with gauge, Super I-Pass II, comfort pad / Quick Release Coupling)	40 56 648
Low Pressure 2216 psi (with gauge, Super I-Pass II, comfort pad / Quick Release Coupling, 12" BB)	40 56 649
Low Pressure 2216 psi (with Dräger Sentinel II, comfort pad / Quick Release Coupling)	40 56 844
Low Pressure 2216 psi (with Dräger Sentinel II, comfort pad / Quick Release Coupling, 12" BB)	40 56 655
SCBA Cylinders	
30-minute 2216 psi Aluminium with Valve	40 54 856
30-minute 2216 psi Carbon Composite with Valve	40 55 701
30-minute 4500 psi Carbon Composite with Valve	40 55 700
45-minute 4500 psi Carbon Composite with Valve	40 55 698
60-minute 4500 psi Carbon Composite with Valve	40 55 699

Dräger PSS® 7000

Developed by professionals for professionals the new Dräger PSS 7000 represents a major leap forward in the evolution of breathing apparatus for the professional firefighter.



ST-587-2006

Dräger PSS 7000:

State of the art breathing apparatus.

Design

The Dräger PSS 7000 is the result of Dräger's ongoing commitment to providing professional firefighters with state of the art, world class breathing apparatus. A key measure of the performance of breathing apparatus is the degree to which it provides confidence and safety to the user during operational use.

The multitude of tasks and different operational demands require that the breathing apparatus be easily configured to suit a wide range of operational requirements. In addition the breathing apparatus must seamlessly integrate and interface with the face mask, communications equipment and head protection to create a high performance personal safety system.

The new harness is a key feature of the Dräger PSS 7000. The advanced compression moulded comfort padding combines high temperature performance, exceptional wear resistance and a high grip anti-slip surface ensures the harness remains in position and the set remains secure on the body. A quick release mechanism on both the waistbelt and shoulder harness permits quick and easy detachment for easy cleaning and maintenance.

Ergonomics

Ergonomic design is an important feature as it is essential in ensuring that the firefighter can carry out the task at hand safely and effectively and with minimum effort. The Dräger PSS 7000 incorporates a range of features which together maximise comfort and minimise stress and fatigue resulting in the highest level of safety and confidence.

Durability and safety

Firefighters and their protective equipment are routinely faced with hostile environments where they are exposed to extreme temperatures and/or chemicals. To provide the safety and protection required the Dräger PSS 7000 uses the most advanced materials and pneumatics which are proven in the field and come together to ensure long life and enduring reliability.

Care and maintenance

Simple and easy maintenance guarantee quick turnaround times in the workshop and ensure that your breathing apparatus is always ready for use. The Dräger PSS 7000 design incorporates a host of features which facilitate easy cleaning and decontamination, and quick assembly and disassembly of all major components.

Dräger PSS 7000

TECHNICAL DATA

	Dräger PSS 7000 pneumatic gauge	Dräger PSS 7000 Bodyguard II
Weight of complete set complete with Dräger FPS 7000 face mask, lung demand valve and Dräger 6.8 litre 300 bar carbon composite cylinder (20 year design life)	Approx: 11.7 kg	Approx: 11.9 kg
Input pressure (bar)	200 or 300	200 or 300
Normal 1st stage output pressure (bar)	8	8
1st stage output flow (l/min)	> 1000	> 1000
High pressure whistle activation pressure (bar)	50 – 60	50 – 60
Whistle sound level (dBA)	> 90	> 90
Whistle frequency range (Hz)	2000 - 4000	2000 - 4000
Bodyguard sound level (distress alarm)	N/A	102 – 112 dBA
Operating temperature range	-32 - + 70	-32 - + 70
Approvals	EN137; 2006 Type 2 vfdB 0802	
	ATEX I M 1 / II 1 GD IIC T6 (Ta -30°C to +60°C) – for the Dräger PSS 7000 and Dräger Panorama Nova masks with triplex visor	
	I M 1 / II 1 GD IIB T6 (Ta -30°C to +60°C) – for Dräger PSS 7000 with all other Dräger Safety breathing apparatus masks	

ORDER INFORMATION

Dräger PSS 7000 Sets with standard cylinder strap (for single cylinder configuration)	
Dräger PSS 7000	33 55 068
Dräger PSS 7000 Bodyguard II	33 55 802
Dräger PSS 7000 Bodyguard II Tally	33 55 804
Sets with universal cylinder strap (for single and twin cylinder configurations)	
Dräger PSS 7000	33 55 930
Dräger PSS 7000 Bodyguard II	33 55 931
Dräger PSS 7000 Bodyguard II Tally	33 55 932
Lung Demand Valves	
Push-in short hose lung demand valve	33 38 700
M45 short-hose lung demand valve	33 38 706
M40 normal demand short hose lung demand valve	33 50 501
M40 normal demand (1.75 m hose) short hose lung demand valve	33 50 606
ESA short hose lung demand valve	33 51 302
Accessories	
Second LDV connection/ female decontamination hose with low force coupling	33 55 748
Decontamination hose (male)	33 55 749
T-piece (for 2 x 6.8 litre 300 bar carbon composite cylinders)	33 37 660

Dräger Compressed Air Cylinders

Dräger Safety offers a wide range of compressed air cylinders for use in the fire service, industry and diving. Depending on the requirement, the customer can choose from the innovative lightweight carbon composite cylinders or steel cylinders. Dräger Safety customers can also rely on a comprehensive service for their compressed air cylinders.



ST-136-2000

Dräger Compressed Air Cylinders:

Well proven steel or fibre carbon containers with aluminium liner.

Highest quality

Dräger compressed air cylinders conform to the highest quality standards in the world. With its well proven compressed air cylinders made from a seamless chrome-molybdenum-steel and particularly lightweight carbon composite cylinders with an aluminium liner the user has two excellent alternatives at his disposal.

All Dräger valved cylinder assemblies are fully approved to pressure equipment directive and PED approved to BS EN 1964-1:1999.

Steel compressed air cylinders can be used with all current compressed air breathing apparatus of the PSS and PA series. The innovative corrosion resistant carbon composite compressed air cylinders are individually manufactured under

computer control to meet the highest material, comfort and safety demands. A weight saving of up to 60% compared to steel ensures greater comfort and as such provides greater efficiency for the wearer. Suitable for all compressed air breathing apparatus 80/90, 94 and approved with all current apparatus of the PSS and PA series.

Comprehensive service

Various professional services provided by Dräger cover compressed air cylinders and valves manufactured by other companies, TÜV – inspections, filling cylinders, re-painting or basic overhauls – are all part of the service provided by Dräger service.

TECHNICAL DATA AND ORDER INFORMATION

We supply compressed air cylinders in various designs:

Capacity [litres]	2.0 3.0 4.0 4.7 6.0 6.8 7.0 9.0
Fill pressure [bar]	200 bar, 300 bar, 2216 psi, 4500 psi
Material	Aluminium, steel and carbon composite
Valves	straight or right-angled, with or without gauge with or without ratchet, optional with pressure relief valve
Connection threads	G5/8", M25X2, W21,08X1/14
Approvals	TÜV, Lloyds Register, NFPA, NIOSH

Cylinders can be labelled to customer requirements on request

Accessories for cylinder protection, connection-pieces (twin-packs), fill connectors and hoses are also available.

Dräger Compressed Air Cylinders

Standard cylinder body sizes:

Air Cylinder 2.0L / 200 bar Aluminium

Air Cylinder 4.0L / 200 bar Steel

Air Cylinder 6.0L / 200 bar Steel

Air Cylinder 7.0L / 200 bar Steel

Air Cylinder 9.0L / 200 bar Steel,

Air Cylinder 2.0L / 300 bar Steel

Air Cylinder 6.0L / 300 bar Steel

Air Cylinder 2.0L / 300 bar Carbon Composite

Air Cylinder 3.0L / 300 bar Carbon Composite

Air Cylinder 4.7L / 300 bar Carbon Composite

Air Cylinder 6.0L / 300 bar Carbon Composite

Air Cylinder 6.8L / 300 bar Carbon Composite

Air Cylinder 9.0L / 200 bar Carbon Composite

Air Cylinder 9.0L / 300 bar Carbon Composite

Because of the many possible combinations of equipment please contact your local Dräger dealer for advice.

Dräger Oxy K pro

Irrespective of the ambient air the Oxy K pro is a breathing apparatus used for search and rescue work involving control, inspection and operational work as well as self rescue and rescue of persons, damage protection and damage limitation in dangerous areas. Based on chemically bound oxygen it supplies the wearer with breathing air for 30 minutes and is designed to be a single use device.



ST-61/2004

Dräger Oxy K pro:

Irrespective of ambient air a search and rescue breathing apparatus for difficult situations.

Flexible use

Dräger Oxy K pro is ideally suited to work in areas where there is smoke, oxygen-deficiency, toxic gases or a shortage of oxygen as well as areas containing methane and hydrogen / air mixtures. The apparatus can be used in temperature classes T1 to T4.

Equipment

The Dräger Oxy K pro is equipped with an easily fitted full mask for face and eye protection. A speech diaphragm fitted inside the mask ensures that verbal communication is maintained during operations. Dräger Oxy K pro is supplied in a robust, watertight case.

Warning functions

Oxygen production and withdrawal warnings are automatically activated when the apparatus is donned. The warning to withdraw is given audibly and visually after two-thirds of the operational time has elapsed.

TECHNICAL DATA

Duration according to DIN 58 652-1 (min)	(breathing rate 35 litres/min)	30
Inhalation / exhalation resistance (hPa)	(breathing rate 35 litres/min)	5,0
Inhalation Temperature max. (°C)		48
Weight (kg)	unopened	ca. 5.8
	in use	ca. 2.7
Dimensions (mm) (H x W x D)		470 x 387 x 175
Breathing bag volume (l)		6

ORDER INFORMATION

Dräger Oxy K pro	63 02 500
Dräger Oxy K pro training apparatus	63 02 501
Mask goggles frame for Panorama Nova	R 51 548

Dräger PSS® BG 4 Closed Circuit Breathing Apparatus

Users of the Dräger PSS BG 4 closed-circuit breathing apparatus are supplied with breathing air for up to four hours so that they can operate even in atmospheres containing little oxygen and/or pollutants.



ST-594-2003

Dräger PSS BG 4 Closed Circuit Breathing Apparatus:

Ideally suited to operations in toxic atmospheres.

The slight positive pressure in the breathing circuit protects the user against the ingress of pollutants from the surrounding atmosphere into the closed breathing circuit. The carbon dioxide contained in the exhaled air is bound by the CO₂ absorber. At the same time, the breathing air is enriched with oxygen from the oxygen cylinder. Before the regenerated air is re-breathed, it streams through a breathing air cooler, thus making the Dräger PSS BG 4 ideal for long-term use in toxic environments.

Features

The Dräger PSS BG 4 offers numerous features for safer use:

- DrägerMan Bodyguard® II

The electronic signal and warning unit delivers and stores vital information thus increasing safety during use. It supplies information quickly and clearly, visually and acoustically, in analog and digital format.

DrägerMan Bodyguard II can be connected to the Telemetry System "Merlin" for transmitting the vital data.

- Anti-vibration strap

Ensures that your closed-circuit breathing apparatus can be transported safely in motor vehicles.

- Optimum wearing comfort

The ergonomically shaped carrying frame, the low weight and the improved harness ensure considerable freedom of movement and less physical effort.

- High breathing comfort

Due to the slight positive pressure in the breathing circuit, the spring-loaded breathing bag protects the user against toxic ambient gases, for instance if there is a leak in the face seal. To reduce the temperature of the inhaled air, thus reducing the physical burden for the user, the breathing air cooler can additionally be filled with ice.

- CO₂ absorber

The streamlined CO₂ absorber with integrated dust filter is available as a grey disposable absorber or as a translucent refillable cartridge, entirely as you require.

- Easy maintenance

The Dräger PSS BG 4 can also be mounted and removed quickly and easily:

- No tools
- Bayonet rings
- Innovative opening and closing mechanism.

Dräger PSS BG 4 Close Circuit Breathing Apparatus

TECHNICAL DATA

Operational time	4 hours as per EN 145
Weight	14.8 kg (incl. mask, oxygen cyl. CO ₂ - absorber and ca. 1,2 kg cooling ice)
Dimensions	595 x 450 x 185 mm
Oxygen constant supply	1.5 – 1.9 litres / min
Minimum valve	> 80 litres / min
Breathing bag volume	5.5 litres
Bypass-valve	> 50 litres / min
Operational temperatures	- 15 °C to + 40 °C (at storage room temperature)
Approved as per EN 145, Ex-Protection in accordance with EN50020 EEx IIC T4 and EEx ia I	

ORDER INFORMATION

PSS BG 4 EP	
Europe, positive pressure, G 3/4", VfdB approved	R 34 501
PSS BG 4 EPL	
Europe, positive pressure, G 3/4", VfdB approved, with long breathing hoses	R 34 511
PSS BG 4 FEP	
Europe, positive pressure, M 24x2, VfdB approved	R 34 502
PSS BG 4 FEPL	
Europe, positive pressure, M 24x2, VfdB approved, with long breathing hoses	R 34 529
PSS BG 4 FEN	
Europe, normal pressure, M 24x2, VfdB approved	R 34 504
PSS BG 4 IP	
International, positive pressure, W 21.8 x 1/14", VfdB approved	R 34 505
PSS BG 4 IPL	
International, positive pressure, W 21.5 x 1/14", VfdB approved, with long breathing hoses	R 34 528
PSS BG 4 EN	
Europe, normal pressure, G 3/4", VfdB approved	R 34 503
PSS BG 4 AP	
America, positive pressure, NIOSH approved	R 34 507
PSS BG 4 CP	
Canada, positive pressure, NIOSH approved	R 34 508
PSS BG 4 RP	
Russian version, GOST standard approved	R 34 517
Oxygen cylinder steel 2 L / 200 bar	
with valve and connection G 3/4" (replacement for B 23 572)	B 10 220
Oxygen cylinder steel 2 L / 200 bar	
with valve and connection M 24 x 2; according to EN 144-2:1998	B 10 217
Oxygen cylinder steel 2 L / 200 bar	
with valve and connection W 21.8 x 1/14"	B 10 219
Oxygen cylinder alu 2 L / 200 bar	
with valve and connector cylinder is part of a unit.	B 10 211

When you order a cylinder please specify the thread type.

Dräger PSS BG 4 Closed-Circuit Breathing Apparatus

Required for operation			
Masks	Dräger Panorama Nova EPDM RP PC	R 53 306	
	Dräger Panorama Nova Silicone RP PC	R 53 316	
	Dräger Panorama Nova Supra EPDM RP PC	R 53 670	
	Dräger Panorama Nova EPDM RP PC T (with telephone connector)	R 53 307 422 1	
	CO ₂ -Absorber	disposable cartridge, grey	R 34 360
	refill cartridge	transparent	R 34 367
	Oxygen cylinder	2 L 200 bar Stahl G3/4	B 10 220
		2 L 200 bar GFK G3/4	B 10 203
2 L 200 bar steel M24x2		B 10 217	
Accessories			
Refill cartridge (translucent)	empty dust filter and DrägerSorb® shall be ordered separately	R 34 367	
For refill cartridge	Drägersorb 400 8 kg	67 37 965	
	Drägersorb 400 18 kg	67 37 985	
	Drägersorb 400 40 kg	67 55 001	
	Wood frame dust sieve	R 32 618	
	Dust filter (200 pcs.)	R 35 754	
	Fill station	R 33 752	
	Freezer container	R 33 999	
	Universal test equipment Dräger Test-it 6100	AG 02 690	
	Test set (with all adapters required for testing)	R 33 777	
Modular Sets			
Harness	Dräger PSS BG 4 strap system	R 34 255	
	Dräger PSS BG 4 Bodyguard II	R 34 259	
	Dräger PSS BG 4 anti-vibration lock	R 34 238	

Dräger Panorama Nova

The Dräger Panorama Nova full face mask is one of the most successful Dräger Safety product families. It meets the highest demands and has an outstanding price / performance ratio. The Dräger Panorama Nova full face mask supplies the wearer quickly and safely with a life saving supply of air via a compressed air breathing apparatus.



ST-465-2000

Dräger Panorama Nova:
Full face mask with connector
for compressed air breathing
apparatus.

Reliable seal

The double seal frame of the Panorama Nova guarantees a particularly good seal and snug fit. Also, the positive pressure inside the mask prevents the ingress of harmful constituents and renders it safer to use.

Comfort

The mask body is available in EPDM or silicone. The special head harness allows the mask to be fitted gently to the face. Depending on the need the large visor can be obtained in robust polycarbon or special chemical resistant triplex glass.

Many applications

Special accessories and adapters are available e.g. for the Dräger HPS 6100 firefighting helmet. Various communication systems together with air supply connections at positive pressure make the mask suitable for many applications. Simple maintenance of the masks makes them particularly service friendly.

TECHNICAL DATA

Mask body	either EPDM or silicone
Visor	either impact-resistant polycarbonate, coated polycarbonate or particularly chemical-resistant triplex glass
Connector	made of robust plastic with inhalation and exhalation valve. Dräger plug-in connector for positive-pressure lung demand valve or standard thread-connector (Rd40) normal-pressure (RA) or standard plug-in connector for German fire brigades (ESA) or positive-pressure standard connection M45x3 (PE) or plug-in connector for CCBA (RP)
Weight	approx. 550-650 g (depending on the visor)
Tested and approved	in accordance with EN 136 (CE mark) and NIOSH

Dräger Panorama Nova

ORDER INFORMATION

Dräger Panorama Nova P

Materials	Mask body	
Visor	EPDM	Silicone
Polycarbonate	R 52972	R 53 070
Polycarbonate with anti-scratch coating	R 54215	R 54 216
Triplex	R 52992	
with helmet adapter (polycarbonate visor)	R 51853	R 54 743

Dräger Panorama Nova RA

Materials	Frame	Mask body	
Visor		EPDM	Silicone
Polycarbonate	Metal	R 52 850	R 52 855
Polycarbonate	Plastic black	R 53 420	
Polycarbonate with anti-scratch coating	Metal	R 54 219	R 54 220
Polycarbonate with anti-scratch coating	Plastic red	R 54 990	
Triplex	Metal	R 52 860	R 53 260
with helmet adapter (polycarbonate visor)	Metal	R 52 180	

Dräger Panorama Nova PE

Materials	Mask body	
Visor	EPDM	Silicone
Polycarbonate	R 51492	
Polycarbonate with anti-scratch coating	R 54217	
Triplex	R 51792	
with helmet adapter (polycarbonate visor)	R 51854	

Dräger Panorama Nova ESA

Materials	Mask body	
Visor	EPDM	Silicone
Polycarbonate	R 55001	R 55005
Triplex	R 55004	
with helmet adapter (polycarbonate visor)	R 55013	

Dräger Panorama Nova RP

Materials	Mask body	
Visor	EPDM	Silicone
Polycarbonate	R 53306	R 53316
with helmet adapter (polycarbonate visor)	R 53670	

Accessories:

Wikov V carrying box	R 51 019
Mabox mask box	R 53 680
Mabox II (small size) mask box	R 54 610
Protex mask bag	R 54 939
Spectacles frame	R 51 548
Neck band (for silicone masks)	R 51 772
Double button (for neck band)	RM 08 910
Lens covers (25 units)	R 25 355
Welder's protective visor (only for metal frame)	R 50 270
»Klar-Pilot« clear-view gel (50 ml)	R 52 560
DAISYquick wipes (package of 10 pcs.)	R 54 134

Dräger FPS 7000 Full Face Mask

The Dräger FPS 7000 full face mask series sets new standards in terms of safety and wearing comfort. Thanks to its newly designed ergonomics and the availability of multiple sizes, it offers a large, optimised field of vision and a very comfortable, secure fit.



ST-9475-2006

Dräger FPS 7000:
The new face of firefighting.

Field of vision and mask body

The new full face mask Dräger FPS 7000 has a large distortion-free polycarbonate visor, which provides you with an exceptionally wide field of vision, even in difficult situations. The visor does not mist due to a well thought-out air circulation and is available with different coatings. The mask body made of either hypoallergenic silicone or EPDM provides an especially comfortable fit.

Fit

The full face mask Dräger FPS 7000 has an outstanding head and face fit. The ergonomic head harness and the double sealing line ensure a secure and comfortable fit on all face shapes and contours. The head harness of the Dräger FPS 7000 also ensures that the mask can be donned and doffed easily and quickly.

Mask-helmet combination

For those who use mask-helmet combinations the newly developed adapter offers a new level of safety. For example, when combining the Dräger HPS 6200 with the new full face mask, the newly developed and patented Dräger Q-fix connection prevents the unintentional release of the attachment.

Integrated accessories

The newly developed communication system Dräger FPS-COM optimally adapts to the design and ergonomics of the mask. Depending on what is required, it can be chosen with different modules and offers the optimal solution for each communication in the field. Whether radio, voice amplifier or head-up display, everything can be directly integrated into the mask and is easy to use.

Modularity

Naturally, Dräger Safety pays close attention to our customers needs. The full face mask Dräger FPS 7000 is not only safer and more comfortable, it also has more flexible options than previous models. Whatever may be needed during operation: it is quickly attached and ready for use.

Maintenance

The special accessories and simple maintenance of all mask parts make the Dräger FPS 7000 not only very economical and easy to service, but also flexible and versatile in its use.

Dräger FPS 7000 Full Face Mask

TECHNICAL DATA

Mask body	Convenient, hypoallergenic and flexible silicone or EPDM (dermatologically tested)
Harness	5-point connection with a large contact surface area at the back of the head, alternatively a hairnet
Mask-helmet combination	2-point connection for Dräger HPS 6200 either with Dräger Q-fix (with safety button) or with Dräger S-fix (without safety button) connection.
Size	Mask body in 3 sizes (S, M and L) compatible with inner mask in 3 different sizes
Visor	Polycarbonate visor available with different coatings
Connector	P, RA, ESA, PE and RP
Weight	approx. 600 g (varies according to version)
Approval	EN 136 Class 3

ORDER INFORMATION*

Dräger FPS 7000 Series						
	Connector	Material	Size (mask/inner mask)	Visor	Adaptation system	Part-number
Dräger FPS 7100	RA-connector					
Dräger FPS 7130		EPDM	M2	PC	CR	R 56 310
		EPDM	S1	PC	CR	R 56 502
		EPDM	L2	PC	CR	R 56 503
		EPDM	M2	PC	CR	R 56 305
		EPDM	M2	PC	S-fix	R 56 425
Dräger FPS 7110		Silicone	M2	PC	Si	R 56 332
Dräger FPS 7300	PE-connector					
Dräger FPS 7330		EPDM	M2	PC	CR	R 56 426
		EPDM	S1	PC	CR	R 56 514
		EPDM	L2	PC	CR	R 56 515
		EPDM	M2	PC	S-fix	R 56 427
Dräger FPS 7500	ESA-connector					
Dräger FPS 7530		EPDM	M2	PC	CR	R 56 307
		EPDM	S1	PC	CR	R 56 516
		EPDM	L2	PC	CR	R 56 517
Dräger FPS 7700	P-connector					
Dräger FPS 7730		EPDM	M2	PC	CR	R 56 200
		EPDM	S1	PC	CR	R 56 249
		EPDM	L2	PC	CR	R 56 300
		EPDM	M2	PC	S-fix	R 56 309
		EPDM	S1	PC	S-fix	R 56 505
		EPDM	L2	PC	S-fix	R 56 506
Dräger FPS 7710		Silicone	M2	PC	Si	R 56 331

*Additional versions are also available. Please contact your sales representative for additional information.

PC – Polycarbonate;

PCaf – Polycarbonate visor with anti-fog coating;

CR – Chloroprene;

Si – Silicone;

S-fix-Mask – helmet combination with standard connection

Dräger PAS AirPack 1

The Dräger PAS AirPack 1 compressed airline equipment system is ideal for demanding applications in which a supply of breathable air must be guaranteed for longer durations. The Dräger PAS AirPack 1, equipped with the universally proven pneumatic system from the Dräger PSS series, is set up at a safe place close to the operational site, which ensures that the user / users only have to carry a light-weight harness. The Dräger PAS AirPack 1 can supply one or two people.



ST-3560-2003

Dräger PAS AirPack 1:
Air supply on wheels for one or two persons.

Easing the load and greater mobility

Cylinders mounted on a hose trolley ensure an uninterrupted supply of breathable air to the user via a hose reel. During operations they only need to wear a light waist set or EN402 compliant breathing apparatus from the Dräger PAS Colt or Micro series resulting in greater freedom of movement.

Flexible to use

The Dräger PAS AirPack 1 is easily transported and can be used anywhere. It consists of antistatic powder coated steel and can carry a maximum of four compressed air cylinders each with a 12 litre capacity. Each Dräger AirPack 1 comes complete with a standard 50 m hose which can be extended up to 100 m if required.

Easy operation

The winding mechanism on the hose reel makes it easier to feed out the hose whilst a special braking system on the hose reel prevents the hose from becoming tangled.

Dräger Compressed Air Filter Station AF 1400

In use the Dräger AF 1400 is connected to an industrial compressed air system and can supply up to four different users. It is located between the air supply source and feed hoses whilst the high performance filter removes any solid, fluid or gaseous particles.

TECHNICAL DATA

	Dräger PAS AirPack 1 hose trolley, pressure reducer, reel and hose	Dräger PAS AirPack 1 cylinder frame with pneumatics	Dräger PAS AirPack 1 hose without hose reel	Dräger PAS AirPack 1 hose reel with support frame
Dimensions (without cylinder)				
(H x W x D) - Min. (mm)	1019 x 465 x 60	888 x 465 x 375	1019 x 465 x 604	520 x 340 x 560
Weight (kg)	40.5	11.5	18	25.5
Input pressure cylinder (bar)	200 or 300	200 or 300	200 or 300	200 or 300
Input pressure hose equipment (bar)	6-9	6-9	6-9	6-9
Nominal output pressure				
Pressure reducer (bar)	8	8	8	8
Output flow				
Pressure reducer (litres/min)	>600	>600	>600	>600
Act. press. warning whistle HD (bar)	55 – 60	55 – 60	55 – 60	55 – 60
Act. press. warning whistle ND (bar)	4 - 5	4 - 5	4 - 5	4 – 5
Acoustic level warning whistle (dBA)	>90	>90	>90	>90
Freq. range warn. whistle HD + ND (Hz)	2000 - 4000	2000 - 4000	2000 - 4000	2000 – 4000
Operational temperature range (°C)	-32 to +70	-32 to +70	-32 to +70	-32 to +70

Dräger PAS AirPack 1

ORDER INFORMATION

Dräger PAS AirPack complete: Hose trolley, pressure reducer, hose reel and 50 m. hose	33 52 228
Hose reel with carrying frame	33 52 239
Cylinder frame with pneumatics	33 52 241
Dräger PAS AirPack 1 Hose trolley without reel and without hose	33 53 008
Accessories for using 4 instead of 2 cylinders (optional)	
Quad Kit	33 53 471
Other accessories (optional)	
Dräger PAS Colt waist set with low pressure warning whistle	33 52 948
Dräger PAS Colt waist set without low pressure warning whistle	33 52 947
Accessories	
Various extension hoses	on request
"Y" Piece	R 27 945
Pressure reducer	R 54 620
Filter station Dräger AF 1400	AL 01 230

Dräger PAS AirPack 2

The Dräger PAS AirPack 2 is designed using leading technology and materials, guaranteeing an extended duration of breathing air where called for. The Dräger PAS AirPack 2 benefits from the world renowned, tried and tested, pneumatics system used on Dräger's successful PSS series. The system can supply one to four people and is set up in a safe place near the operational site which ensures that the user/ users only have to carry a lightweight harness.



Dräger PAS AirPack 2:
Air supply on wheels for
one to four persons.

Easing the load and greater mobility

Uninterrupted air supply is provided by the trolley-mounted cylinder(s) to the wearer via a hose reel. As the AirPack can be easily re-located and therefore positioned in a safe zone which is in close proximity to working area, the user need only wear a lightweight harness, such as Dräger's PAS Colt, during operation. This allows the wearer a greater freedom of movement, and less stress and fatigue than they would be subjected to if wearing a conventional self-contained breathing apparatus unit.

Flexible to use

The Dräger PAS AirPack 2 is easily transported and can be used anywhere; on request it can be supplied with a lifting eye.

The Dräger PAS AirPack 2 is able to accommodate one or two compressed air cylinders of up to 50 litres in capacity and is constructed from an antistatic powder coated steel material.

It is available with either one or two pressure reducers and two hose reels allowing joint use of the system or for two completely independent systems to run concurrently.

Dräger Compressed Air Filter Station AF 1400

The Dräger AF 1400 is connected to an industrial compressed air system and can supply up to four different users. It is located between the air supply source and feed hoses and via a high performance filter removes any solid, fluid or gaseous particles.

Dräger PAS AirPack 2

TECHNICAL DATA

	Dräger PAS AirPack 2 hose trolley, two pneumatic systems two hose reels, one lifting eye	Dräger PAS AirPack 2 hose trolley, two pneumatic systems two hose reels, one lifting eye	Dräger PAS AirPack 2 hose trolley, one pneumatic systems two hose reels,	Dräger PAS AirPack 2 hose trolley, one pneumatic systems two hose reels,
Dimensions (without cylinders)				
(H X W X D) - Min. (mm)	1440 x 668 x 853	1013 x 888 x 853	1440 x 888 x 835	1013 x 668 x 853
Weight (kg), without cylinder	83.5	81	60	57.5
Input pressure cylinder (bar)	200 or 300	200 or 300	200 or 300	200 or 300
Input pressure hose equipment(bar)	6-9	6-9	6-9	6-9
Nominal output pressure				
Pressure reducer (bar)	8	8	8	8
Output air flow				
Pressure reducer (litres/min)	>600	>600	>600	>600
Act. press. whistle HD (bar)	55 – 60	55 – 60	55 – 60	55 – 60
Acoustic level warn. whistle (dBA)	>90	>90	>90	>90
Act press. whistle HD (bar) ND (bar)	4 - 5	4 - 5	4 - 5	4 – 5
Freq. whistle HD (bar) HD + ND (Hz)	2000 - 4000	2000 - 4000	2000 - 4000	2000 – 4000
Operational temperature range (°C)	-32 to +70	-32 to +70	-32 to +70	-32 to +70

ORDER INFORMATION

Dräger PAS AirPack 2, 4M, for max. 4 persons, hose trolley, two pneumatic systems and two hose reels	33 52 276
Dräger PAS AirPack 2, 4M, for max. 4 pers. + lift, hose trolley, two pneumatic systems and two hose reels, one lifting eye	33 52 236
Dräger PAS AirPack 2, 2M, for max. 2 Persons, hose trolley, one pneumatic system and one hose reel	33 52 994
Dräger PAS AirPack 2, 2M, for max. 2 Pers. + Lift, hose trolley, one pneumatic system and one hose reel, one lifting eye	33 52 995
Dräger PAS Colt waist set with low pressure warning whistle	33 52 948
Dräger PAS Colt waist set without low pressure warning whistle	33 52 947
Accessories	
Various extension hoses	on request
"Y" Piece	R 27 945
Pressure reducer	R 54 620
Filter station Dräger AF 1400	AL 01 230

Dräger Automatic Switchover Valve (ASV)

The Dräger Automatic Switchover Valve (ASV) enables the user to connect compressed air breathing apparatus to an external air supply, such as a factory ring main, and be safe in the knowledge that if the external supply were to fail, there would be a safe and uninterrupted transition to the wearer's back up air supply.

Simple to adapt

The Dräger Automatic Switchover Valve is easily fitted between the output of the compressed breathing apparatus first stage pressure reducer and the lung demand valve. An additional input connection is attached to the primary air source, the air-line supply.

tional time. When using compressed air breathing apparatus with for example 6 litre/ 300 bar compressed air cylinders or when using chemical suits worn over a compressed air breathing apparatus the equipment gives an indication that the switchover has taken place.

Fully automatic switchover

If the supply pressure exceeds 5 bar or the external supply is re-connected the valve will automatically switch back to the airline source of air and the wearer can continue with their task.

Approvals

The Dräger Automatic Switchover Valve is approved in accordance with the new EN 14593 Part 1 for the use of compressed airline equipment together with compressed breathing apparatus.

Acoustic Warning

If the primary air supply fails or the input pressure drops below the ASV switching pressure of 4 to 5 bar, then the valve will automatically switch to the compressed air breathing apparatus for its supply of air. Upon carrying out this function a warning will sound alerting the wearer that this process has taken place. At no time during the switchover procedure is the air supply interrupted. On short term compressed air breathing apparatus the warning whistle sounds for the remainder of the opera-

Dräger Automatic Switchover Valve (ASV):

Guarantees fully automatic air supply without interruption.



ST-3850-2005

TECHNICAL DATA

Total weight (depending on apparatus)	320 – 750 g	
Dimensions	130 mm x 54 mm x 32 mm (L x W x H)	
Supply pressure	Comp. air breather	Nom. Press. 7.5 bar
	External air supply	6 to 10 bar
Switch over Pressure	Of external source	4.0 to 5.0 bar
To external air source	5.0 to 5.8 bar	
Loud warning signal	90 dbA	
Operating temperature	-30 °C to +70 °C	
Approvals	Approval as per EN 14593, part 1	
	Approved for use with compressed air breathing apparatus as per prEN 137 and EN 402	

ORDER INFORMATION

Dräger Automatic Switchover Valve (ASV) for Dräger PAS Colt	33 54 140
Dräger Automatic Switchover Valve (ASV) for Dräger PAS Micro	33 54 141
Dräger Automatic Switchover Valve (ASV) for compressed air breathing apparatus (fixed)	33 54 142
Dräger Automatic Switchover Valve (ASV) for compressed air breathing apparatus (quick fitting)	33 54 244
Dräger Automatic Switchover Valve (ASV) with quick connection coupling, compressed air breathing apparatus (quick fitting) with warning whistle	33 54 405
Dräger Automatic Switchover Valve (ASV) for chemical protection suits (quick fitting)	33 54 568

For special accessories see product information

Dräger Catalysators and Absorption Agents

Dräger Safety is one of the few companies in the world with the know how and basic competence to produce absorption agents, catalysts and technical paper. For each area of application there is an optional determined filter system available which meets the high demands of international certification centres. Dräger Safety provides tailor made solutions to meet special customer requirements.

ST-460-2003



Dräger Catalysators and Absorption Agents:

The right product for every application.

Breathing lime

With its product families Drägersorb 400 and Dräger Divesorb Dräger Safety offers high performance breathing lime to absorb acidic gases (CO) in enclosed or semi-enclosed closed circuit respiratory protection apparatus. It is available for use in industry, mining, fire service, diving and in parts of submarines.

Users have the advantage of high absorption quality as well as resistance to friction, low breathing resistance, and consistent absorption behaviour.

Dräger Paper

Used in medical infusion needles and with its good separation qualities and low

resistance the high quality fibre glass paper ensures efficient filtration processes. Its resistance to temperature and excellent water evasive properties are other essential efficiency indicators.

DrägerCarb

The DrägerCarb Family contains mostly impregnated active carbon which can be applied to the surface of different harmful gases. The efficient spectrum of Dräger Safety in this area also included customer specific development of an optimal active carbon centre as well as the production of complete special active carbon filters as an OEM product.

TECHNICAL DATA

Composition	Calcium hydroxide, alkaline hydroxide, water	
Shape	semi-spherical	
Grain size	Ø ca. 4 mm	ISO 3310, 2 - 4 mm ASTM E11, 5 - 10 No
Water content	(16 +/- 2) %	
Layer density	(830 +/- 100) g/L	
CO ₂ -absorption capacity	depending on operational parameters and absorption system	
Storage temperature	minus 30 °C to plus 50 °C	
Indicator	No colour indicator	
Canister sizes	Weight	L x W x H approx:
	8 kg	245 x 205 x 355
	18 kg	290 x 270 x 450
	40 kg	400 x 400 x 470

ORDER INFORMATION

Drägersorb 400	8 kg Breathing lime (Canister)	67 37 965
Drägersorb 400	18 kg Breathing lime (Canister)	67 37 985
Drägersorb 400	40 kg Breathing lime (Carton)	67 55 001

Dräger HPS 4100 Firefighter Helmet

Dräger fire service helmets are among the most innovative and safest in the world. The Dräger HPS 4100 half shell helmets provide an optimal solution with respect to protection, comfort and economy.



ST-60-2003

Dräger HPS 4100:

High temperature resistant, user-friendly – innovative protection for professionals.

High temperature resistant

The half shell is based on the new generation NATO helmets and is made of high temperature resistant Duroplast. It is also resistant to extreme heat; even in exceptional circumstances it offers the wearer absolute protection.

Innovative internal fittings

Flame retardant, washable Nomex as well as a four point chin-neck strap fastener made from Aramid ensures that the helmet is pleasant to wear whilst guaranteeing a good fit.

User friendly

The extraordinarily simple adjusting mechanism and ergonomic quick connection device made from high temperature resistant plastic guarantees that the Dräger HPS 4100 can be fitted and removed intuitively.

Comprehensive list of accessories

The particularly extensive range of accessories such as a visor that can be locked in three positions as well as a loop to safeguard protective goggles confirms the flexibility of the helmet and permits simple application to many individual requirements. Accessories also include communication systems.

TECHNICAL DATA

Outer shell	Duroplast, GFK = fibreglass strengthened	
Internal lining	Nomex, flame retardant , washable	
Connection system	4-point chin-neck strap , harness made of Aramid with push in connection	
Weight	Helmet size	H2: ca. 800 g
	Helmet size	H3: ca. 940 g
Sizes	Helmet size	H2: 53 to 61
	Helmet size	H3: 59 to 64
Visor (optional)	2 mm polycarbonate, scratch resistant layer , optically Class 3, Ballistic protection class B, approval EN 166	
Approvals and tests	EN 443: 1997, options: E2, E3, -40°C (****), Radiation heat 14 kw/m2	
	EMPA, 30 kw/m2 + 40 KW (DMT) Solas Approval Certificate	
	EG-build sample test certificate (Luxemburg) BUK-Test (DMT), Nord Test	
	Lower Saxony Home Office in accordance with TW No. 17	
Options	Loop for goggles, rubber edges (see HPS 4100 Comfort)	

ORDER INFORMATION

Helmet variants Dräger HPS 4100

Dräger HPS 4100 Standard, Size H2	Phosphorescent, with reflective strips, without rubber edge & goggle loop	R 56 031
Dräger HPS 4100 Standard, Size H3	Phosphorescent, with reflective strips, without rubber edge & goggle loop	R 56 033
Dräger HPS 4100 Comfort, Size H2	Phosphorescent, with reflective strips, with rubber edge & goggle loop	R 56 032
Dräger HPS 4100 Comfort, Size H3	Phosphorescent, with reflective strips, with rubber edge & goggle loop	R 56 034
Dräger HPS 4100 Comfort, Size H2	White, with reflective strips, with rubber edge & goggle loop	R 56 112
Dräger HPS 4100 Comfort, Size H3	White, with reflective strips, with rubber edge & goggle loop	R 56 113

Dräger HPS 6100 Firefighter Helmet

Dräger Safety fire service helmets are among the most innovative and safest in the world. The integral Dräger HPS 6100 helmet with visor combines many years of "know-how" with the latest research results and the most up to date materials. It combines optimal protection with the greatest degree of comfort.



ST-139-2003

Dräger HPS 6100 Firefighter Helmet:

The result of worldwide practical experience – high temperature resistance, versatile and user friendly.

High temperature resistant

The helmet shell made from high temperature resistant Duroplast and equipped with a scratch proof layered visor withstands the most extreme heat conditions and provides the wearer with absolute protection in exceptional situations.

Innovative internal equipment

Flame resistant washable Nomex, a head band made from washable eco leather, as well as a three point chin-neck strap system made of Aramid ensures that the helmet is pleasant to wear with a tight fit.

User friendly

The heat resistant ergonomic lock guarantees intuitive fitting and removal of the Dräger HPS 6100. The Dräger mask

can be carried safely, quickly and comfortably with the helmet thanks to its patented Dräger Supra adapter or the head size adjustment when wearing the mask with a head harness.

Comprehensive accessories

With many accessories such as different visors, neck protection models, chin straps, protective glasses or lamps, the helmet can be tailor-made to individual requirements. Easily adaptable communication systems complete the list of accessories. The large exchangeable front plate (supplied in various colours) can be identified easily by means of appropriate labels or identification marks.

TECHNICAL DATA

Outer shell	GFK = fibreglass reinforced plastic. For direct fitting of full mask Dräger Panorama Nova Supra and f2 Supra
Internal equipment	Heat resistant Nomex internal equipment, comfortable, quickly adjusted for wearing masks with straps
Lock system	3-point chin-neck strap, strap system out of Aramid / Nomex with insert connection
Weight	Ca. 1250 g
Sizes	1 size immediately adjustable from 52 - 64 / optional 50 - 51 with extra padded strips
visor	2 mm polycarbonate, scratch proof coating, optically Class 2, ballistic protection class B, approved as per EN 166
Alternatively with Gold Coating as protection against infrared radiation	
Approval and tests	EN 443: 1997, Options: E2, E3, -40°C (****) Radiation heat 14 Kw/m2 MH-F vfdb 0802 (April 2001) Appendix A EMPA, 30 KW/m2 + 40 KW/m2 Flame engulfment test (DMT) BUK-Test (DMT), Nord Test

Dräger HPS 6100 Firefighter Helmet

ORDER INFORMATION

Helmet Variants Dräger HPS 6100	
Phosphorescent, phosphorescent front plate, clear visor	R 56 080
Phosphorescent, phosphorescent front plate, gold visor	R 56 081
Phosphorescent, jet black front plate wire grid-visor	R 56 082
Phosphorescent, jet black front plate, clear visor	R 56 096
Phosphorescent, jet black front plate, gold visor	R 56 097
Pure white, pure white front plate, clear visor	R 56 083
Pure white, pure white front plate, gold visor	R 56 093
Pure white, jet black front plate, clear visor	R 56 098
Pure white, jet black front plate, gold visor	R 56 099
Pure white, luminous orange front plate, clear visor	R 56 084
Jet black, jet black front plate, clear visor	R 56 085
Jet black jet black front plate, gold visor	R 56 086
Red, red front plate, clear visor	R 56 087
Red, red front plate, gold visor	R 56 094
Red, jet black front plate, clear visor	R 56 100
Red, jet black front plate, gold visor	R 56 106
Luminous yellow, luminous yellow front plate, clear visor	R 56 088
Luminous yellow, luminous yellow front plate, gold visor	R 56 095
Zinc yellow, zinc yellow front plate, clear visor	R 56 089
Zinc yellow, zinc yellow front plate, gold visor	R 56 090
Signal blue, signal blue front plate, clear visor	R 56 091
Signal blue, signal blue front plate, gold visor	R 56 092
Front plate Dräger HPS 6100	
Front plate pure white	R 56 011
Front plate jet black	R 56 017
Front plate red	R 56 014
Front plate luminous orange	R 56 015
Front plate phosphorescent	R 56 018
Front plate zinc yellow	R 56 012
Front plate luminous yellow	R 56 020
Front plate sulphur yellow	R 56 021
Front plate signal blue	R 56 013
Front plate aluminium grey	R 56 016
Colours Dräger HPS 6100 (helmet shell + front plate)	
Phosphorescent, pure white (RAL 9010), jet black (RAL 9005), red (RAL 3000), luminous yellow (RAL 1026), zinc yellow (RAL 1018), signal blue (RAL 5005), luminous orange (RAL 2005), sulphur yellow (RAL 1016), aluminium grey (RAL 9006)	
Accessories	
Neck protection in various designs, reflective stripes and helmet lamps with holder and various communication systems on request (Miscellaneous helmets and colours also available on request)	

Dräger HPS 6200 Firefighter Helmet

In collaboration with our customers worldwide, we have further developed our Dräger HPS 6100 firefighter's helmet and introduced various optimisations. The new helmet model Dräger HPS 6200 conforms to the standard prEN 443:2006 and is the lightest helmet of its kind presently on the market approved to this standard.



ST-9400-2006

**Dräger HPS 6200
Firefighter Helmet:**
Optimised wearing comfort.

The helmet shell of high-temperature-resistant Duroplastic withstands the most intense heat from open flame or radiant sources. The helmet consequently offers maximum protection against penetration and impact even under the influence of extreme levels of heat.

The visor has been extended down to the chin area and therefore protects the entire face (approval to EN 14458). It is made of especially robust, highly thermally stable polysulfone material (amber-tinted) and provided with an anti-scratch coating on both sides. Tabs simplify opening and closing of the visor – even when wearing thick fire-fighting gloves.

The mask-helmet connection systems Dräger Q-fix and S-fix

A special feature of the Dräger HPS 6200 is the ability to connect the newly developed Dräger FPS 7000 full-face mask simply and with a self-securing mechanism. The Dräger Q-fix system is the first exclusive Dräger connection system with improved safety features. It enables you to simply and securely combine the Dräger FPS 7000 full-face mask with the Dräger HPS 6200 helmet in use (patent number DE 10 2005 024 508 B3).

Technical improvements

The helmet shell is pressed using the SMC process, then provided with an optimised paint coat. This process simultaneously guarantees inherent fire protection. The Dräger HPS 6200 is therefore virtually unbeatable when it comes to robustness and paint adhesion.

The wear comfort of the helmet has been improved through, among other things, a longer chin strap. The length-optimised chin strap is provided with easy-to-adjust Velcro fastening. To make the helmet suitable for smaller head sizes (50 and 51) too, an additional padding element integrates into the helmet shell.

The integrated flame and heat barrier sees to a better climate inside the helmet. Without making compromises in respect of wear comfort, we have also succeeded in achieving greater acoustic sensitivity through modified protective padding in the ear area. As with the predecessor, the strapping is made of fireproof, washable Nomex, the headband of washable eco leather.

Dräger HPS 6200 Firefighter Helmet

TECHNICAL DATA

Size	universal size, continuously adjustable for head sizes 52 to 64 or optionally 50/51 with additional pad
Weight	approx. 1,365 g
Outer shell	GRP = glass reinforced plastic, high-temperature-resistant, specially SMC pressed
Colours	see order data, further colour combinations on request
Mask connection	suitable for connection of masks with Supra-adapter and also for the new Dräger connection system (FPS 7000)
Inner liner	flame-resistant, washable strapping of Nomex, headband of eco leather. Head support ring with quick-adjustment system for wearing of full-face masks with strapping or 5-point harness
Fastening system	3-point chin strap/neck strap of Aramide with quick-release catch
Visor	2 mm polysulfone, anti-scratch coating both sides, grip tabs both sides, approved to EN 14458.
Insulation resistance	E2, E3
Radiant heat	14 kW/sq m
Low-temperature stability	down to -40 °C
Approvals and tests	prEN 443:2006, EN 443:1997, mask-helmet combination to DIN 58610, Nord Test (as Dräger HPS 6100)

ORDER INFORMATION

Base version of Dräger HPS 6200 (matt black helmet front plate)		
Helmet luminescent		R 56 550
Helmet white		R 56 530
Helmet red		R 56 540
Helmet blue		R 56 560
Helmet zinc yellow		R 56 570
Helmet black		R 56 580
Helmet bright yellow		R 56 590
Further versions of Dräger 6200 (helmet shell and helmet front plate in same colour)		
luminescent		R 56 566
white		R 56 576
red		R 56 586
blue		R 56 596
zinc yellow		R 56 606
black		R 56 616
bright yellow		R 56 626
Accessories Standard		
Neck curtain Alu/Nomex	aluminised with reverse side of Nomex III	R 56 025
Neck curtain Nomex	short and tight fitting, Nomex impregnated with fluorocarbon, reverse side of Nomex Comfort/Lycra	R 56 026
Neck curtain Wool	long (Dutch type), 100% wool, oil and water repellent, flame retardant, edged at bottom with Nomex III, attached to helmet by press stud	R 56 028
Additional pad	for size 50 to 51	R 56 072
Set of reflective strips	pattern set, silver of highly heat-resistant material	R 56 029
	pattern set, yellow	R 56 141
	adhesive template set	R 56 120
Special design	lemon-yellow, style Wing 1	R 56 198
	reflective strips ruby-red, style Wing 1	R 56 199
	lemon-yellow, style Wing 2	R 56 396
	ruby-red, style Wing 2	R 56 397

Dräger HPS 6200 Firefighter Helmet

Front plate	exchangeable and available in different colours	(on request)
Lamp holder	black, high-temperature-resistant plastic for attachment of helmet lamp UK 4AA-ES1	R 56 148
Lamp UK 4AA-ES1	helmet lamp in yellow with highest EX-protection class, waterproof ABS housing and pressure compensation valve	R 56 109
Safety goggles	for use as primary eye protection, black, visor of poly-carbonate (2 mm), anti-scratch and anti-fog coating, optical class 2 and ballistic protection class B	R 56 076
Adapter for communication systems	enables use of different Dräger communication systems (right + left)	R 56 116
Anti-fog agent	for all visors	R 56 542
Accessories Special		
Dräger FPS 7000 full-face mask	available with harness or with Dräger FPS 7000 mask-helmet adapter	
Dräger Panorama Nova or f2 full-face mask	available with standard head harness or the patented Dräger Supra-adapters	
Communication systems	clear and convenient two-way communication for professional applications	
Spare Parts		
Amber-tinted visor of polysulfone (2 mm)		R 56 555
Spare parts set for mask attachment		R 56 144
Flame and heat barrier		R 56 534
Chinstrap with Velcro fastening		R 56 536
Head support ring for sizes 52 to 64		R 56 052
Sweat band of eco leather		R 56 070
Helmet bag		R 56 104
Paint repair kit for different helmet colours on request		
(Further colours for helmet shell and helmet front plate on request)		

Dräger Chemical Protection Overalls

The all in one hooded overalls from Dräger Safety provide a high degree of protection from solid or liquid chemicals. Safety gloves and boots made from various materials which offer protection for various demands can be combined with the overalls ready for use. The suits can be used with filter masks, compressed air breathing apparatus or compressed airline equipment.



ST-2465-2003

Dräger Chemical Protection Overalls:

Reliable protection as required – re-usable or one-off use.

Dräger Protec Plus TC and TF

The Overalls Type Dräger Protec Plus made from coated Tyvek® material Tychem® C (yellow) and Tychem® F (orange) are designed for a limited use application. The Dräger Protec Plus TC gives protection against ultra-fine dust and provides a barrier to many inorganic acids and alkalis as well as water based salt solutions. The Overall Dräger Protec Plus TF provides protection against many concentrated inorganic acids and alkalis and a wide range of organic chemicals. Both variants are available in four sizes. They are CE certified and classified as chemical-protection Types 3, 4, 5 and 6. They are also tested for anti-static properties under EN 1149-1.

Dräger WorkStar Flexothane and PVC

Both Dräger WorkStar-Overalls are re-usable. The Dräger WorkStar Flexothane, made from water vapour permeable material, offers a particularly high degree of comfort. The zip fastener is protected by an additional cover piece. Ideal for working with oil, petrol and diesel (Colour: red / blue). The Dräger WorkStar PVC made from wearer friendly and reinforced PVC material has strong mechanical properties. With its covering over the hood and the zip fastener it offers an excellent seal against fluids e.g. for cleaning operations with high pressure steam cleaners. (Colour yellow). Both variants are available in four sizes. Dräger Workstar Flexothane Type 4 according to EN 465, Dräger Workstar PVC Type 3 and 4 according to EN 466.

ORDER INFORMATION

Dräger Protec Plus TC, for body size from 168 cm to 176 cm	M	R 54 860
Dräger Protec Plus TC, for body size from 174 cm to 182 cm	L	R 54 861
Dräger Protec Plus TC, for body size from 180 cm to 188 cm	XL	R 54 862
Dräger Protec Plus TC, for body size from 186 cm to 194 cm	XXL	R 54 863
Dräger Protec Plus TF, for body size from 168 cm to 176 cm	M	R 54 870
Dräger Protec Plus TF, for body size from 174 cm to 182 cm	L	R 54 871
Dräger Protec Plus TF, for body size from 180 cm to 188 cm	XL	R 54 872
Dräger Protec Plus TF, for body size from 186 cm to 194 cm	XXL	R 54 873
Carrying case		R 53 373
Dräger WorkStar Flexothane	M	R 54 522
Dräger WorkStar Flexothane	L	R 54 523
Dräger WorkStar Flexothane	XL	R 54 524
Dräger WorkStar Flexothane	XXL	R 54 998
Dräger WorkStar PVC	M	R 54 526
Dräger WorkStar PVC	L	R 54 527
Dräger WorkStar PVC	XL	R 54 528
Dräger WorkStar PVC	XXL	R 54 929

Dräger AirStar Chemical Protection Suits

Chemical protection suits of the Dräger AirStar series with a supply of breathable air and ventilation from a compressed airline system offer a comfortable alternative to working with compressed air breathing apparatus. The compressed airline connection makes an additional breathing connection into the suit and the internal hose system ensures the most efficient ventilation.



ST-630-2003

Dräger AirStar

Chemical Protection Suits:

Supplied with compressed air and gas tight protection.

Both Dräger AirStar suits are suitable for maintenance, cleaning and repair work as well as chemical handling and are available in various designs. The version with fixed integrated boots is approved as a gas tight chemical protection suit in accordance with EN 943 – 1:2002 Type 1c.

Dräger AirStar Industry C

The protection suit is made from SYMEX® which guarantees high resistance to chemicals and friction as well as alkalis and acids. The extremely light and flexible material improves mobility and comfort. The zip fastener is fitted to the back of the suit. The Dräger AirStar Industry C is particularly suitable for cleaning out tanks and boilers.

Dräger AirStar PF C

The suit made from flexible VITON®/Butyl is particularly chemical resistant and is also resistant to mechanical stress and flames. The zip fastener is fitted to the back of the suit.

Dräger AirStar Industry H

The light chemical and friction resistant hood made of Symex and large PVC – viewing screen are vital elements of the protection suit which is suitable for wearers of spectacles and beards, whilst safety helmets can also be worn.

ORDER INFORMATION

Dräger Airstar Industry C	R 29 330
Basic suit	
Dräger AirStar Industry C Basic suit, Size M	
Dräger AirStar Industry C Basic suit, Size L	
Dräger AirStar Industry C Basic suit, Size XL	
Dräger AirStar Industry C Basic suit, Size XXL	
Dräger Airstar PF C	R 29 331
Basic suit	
Dräger AirStar PF C Basic suit, Size M	
Dräger AirStar PF C Basic suit, Size L	
Dräger AirStar PF C Basic suit, Size XL	
Dräger AirStar PF C Basic suit, Size XXL	
Dräger AirStar Industry H (SYMEX) hood	R 54 900

VITON® Fluoroelastomer is a registered product brand mark for DUPONT PERFORMANCE ELASTOMERS.

Dräger AirStar Chemical Protection Suits

Accessories for Tests

Functional tester	R 55 370
Test ball (it is recommended to order 2 each)	R 50 337
Hose clamp (it is recommended to order 2 each)	R 50 866

CPS-marking

Special customised marking	on request
For information on special customised marking please contact your local Dräger Safety sales organisation	

Boots *

Boots PVC size 43 (8.5)* (pair)	R 52 653
Boots PVC size 46 (11.5)* (pair)	R 52 656
Boots PVC size 47/48 (12.5/13)* (pair) (special size)	R 55 413
Boots Nitrile size 43 (8.5)* (pair)	R 55 493
Boots Nitrile size 44 (10)* (pair) (special size)	R 55 454
Boots Nitrile size 46 (11.5)* (pair)	R 55 496
Boots Nitrile size 48 (13)* (pair) (special size)	R 55 414
Boots Nitrile size 49 (14)* (pair) (special size)	R 55 469

Gloves *

Gloves Butyl size 9 (pair) (special size)	R 55 538
Gloves Butyl size 10 (pair)	R 53 531
Gloves Butyl size 11 (pair)	R 53 560
Gloves VITON® size 9 (pair) (special size)	R 55 537
Gloves VITON® size 10 (pair)	R 53 776
Gloves VITON® size 11 (pair)	R 53 554

Gloves-Accessories *

Over gloves TRICOTRIL size 10 (pair)	R 55 968
Over gloves TRICOTRIL size 11 (pair)	R 55 966
Over gloves GIGANT size 14 (pair)	R 55 959
Cotton inner gloves (pair)	R 50 972

Accessory for Visor *

Outer visors	R 53 388
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Accessories for transport

Transport bag, blue	R 53 373
Protection bag, white	R 53 693
Transport case, grey with wheels	T 51 525

Accessory for mask

cleaning gel (50ml) "Klar-Pilot"	R 52 560
cleaning fluid (50ml) "Klar-Pilot"	R 52 550

Accessories

Further accessories, airline supply systems and spare parts are also available. Please contact your local Dräger Safety sales organisation for further information.

* parts are not assembled, loose items

Dräger WorkMaster Chemical Protection Suits

The one piece gas tight chemical protection suit of the Dräger WorkMaster series with externally worn respiratory protection apparatus Type 1b, full facemask and helmet offers protection not only against solids and fluids but also against gaseous risks (even if equipped with a black face cuff). With an inbuilt Dräger Panorama Nova full face mask and the new black face cuff these suits are approved in accordance with EN 943-1 : 2002 Part 1, and Part 2-ET. Gloves and safety boots are chemically sealed and are easily attached to the suit.



ST-2412-2003

Dräger WorkMaster Chemical Protection Suit:

Respiratory protection equipment is worn outside the suit.

All suits are designed to be used with compressed air breathing apparatus and compressed airline equipment. The face cuff is approved in accordance with EN 943-Part 1 and Part 2-ET.

Due to the different materials and combinations of work wear the Dräger WorkMaster series has various items of tailor-made equipment at its disposal. The protection suit with its modular system can be assembled to specific requirements so that the greatest possible comfort is achieved in the most demanding of situations. A ventilation system can be integrated into the protection suit to keep the body cool and get rid of condensation. This produces a pleasant atmosphere inside the suit thus promoting greater comfort.

Dräger WorkMaster (UMEX)

The Dräger WorkMaster UMEX is made from a particularly light material. It is suitable for low concentrations of acids and alkalis. Even at extremely low temperatures the material remains flexible. Colour: luminous red. Available in four sizes.

Dräger WorkMaster PF (VITON®/Butyl)

The particularly chemically resistant material VITON/Butyl also has high mechanical resistance and is flame retardant. Colour: orange. Available in four sizes.

Dräger WorkMaster Industry

The Dräger WorkMaster Industry, consisting of extremely flexible and light material provides the wearer with great mobility and ensures less stress. The suit is suitable for high mechanical stress (friction resistant) and is resistant to chemicals especially acids and alkalis. Colour: red. Available in four sizes.

Dräger WorkMaster pro-ET (Emergency Team)

Suitable for extreme working conditions. The suit is made of high quality HIMEX and is outstanding because of its particularly high mechanical and chemical resistant properties together with flame resistance. The body hugging cut guarantees excellent mobility. The Sealex seams are specially sealed and the zip fastener has an additional cover strip made of HIMEX. Colour: blue and orange. Available in four sizes.

Additional features e.g. optima safety boots or Velcro fastener for the cover strip for the zip fastener. Ideal for use where there are great chemical and mechanical resistance forces.

Dräger WorkMaster Chemical Protection Suits

ORDER INFORMATION

Dräger WorkMaster (UMEX)	R 29 322
Dräger WorkMaster Basic suit, Size M	
Dräger WorkMaster Basic suit, Size L	
Dräger WorkMaster Basic suit, Size XL	
Dräger WorkMaster Basic suit, Size XXL	
Dräger Workmaster Industry	R 29 335
Dräger WorkMaster Industry Basic suit, Size M	
Dräger WorkMaster Industry Basic suit, Size L	
Dräger WorkMaster Industry Basic suit, Size XL	
Dräger WorkMaster Industry Basic suit, Size XXL	
Dräger WorkMaster PF (VITON/Butyl)	R 29 333
Dräger WorkMaster PF Basic suit, Size M	
Dräger WorkMaster PF Basic suit, Size L	
Dräger WorkMaster PF Basic suit, Size XL	
Dräger WorkMaster PF Basic suit, Size XXL	
Dräger Workmaster pro-ET (HIMEX) - Blue	R 29 400
Dräger WorkMaster pro ET Basic suit, Size M	
Dräger WorkMaster pro ET Basic suit, Size L	
Dräger WorkMaster pro ET Basic suit, Size XL	
Dräger WorkMaster pro ET Basic suit, Size XXL	
Dräger Workmaster pro-ET (HIMEX) - Orange	R 29 401
Dräger WorkMaster pro ET Basic suit, Size M	
Dräger WorkMaster pro ET Basic suit, Size L	
Dräger WorkMaster pro ET Basic suit, Size XL	
Dräger WorkMaster pro ET Basic suit, Size XXL	

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HIMEX® is a registered product mark for Drägerwerk AG, Lübeck, Germany

Dräger TeamMaster Chemical Protection Suits

The one piece gas tight chemical protection suit of the Dräger TeamMaster series with internally worn respiratory protection apparatus, helmet and full mask offers protection not only against solids and fluids but also gaseous risks. The large panoramic visor offers the widest possible view. Gloves and safety boots are chemically sealed and are easily attached to the suit.



ST-5685-2004

Dräger TeamMaster Chemical Protection Suit:

Respiratory protection apparatus is worn inside.

With various materials and equipment the Dräger TeamMaster series can be used to meet the needs of any situation. Via a modular system the protection suit can be assembled to meet specific conditions and is so adapted to the wearer that the highest degree of comfort is guaranteed in many situations.

The Dräger TeamMaster series can be used in a number of situations: Apart from the compressed air breathing apparatus and full face mask as prescribed in accordance with EN 137 a safety helmet or helmet – mask combination Type 1a can also be worn under the chemical protection suit, whilst the suit itself can be connected to an external air supply (e.g. compressed airline equipment). As an option a ventilation system can be incorporated into the suit to cool the body and get rid of any condensation, which considerably improves the comfort of the wearer. All Dräger TeamMaster chemical protection suits are tested and approved in accordance with EN 943, Type 1a.

Dräger TeamMaster (UMEX)

The Dräger TeamMaster UMEX is made from a particularly light material. It is ideal for use against low concentrations of acid and alkaline solutions. Even at extremely low temperatures the material remains flexible. Colour: Luminous red and available in four sizes.

The following Dräger TeamMaster chemical protection suits are suitable for emergency

operations in which nothing is known about the chemicals prior to commencement of the operation. Therefore the suit must have a high degree of mechanical resistance.

Dräger TeamMaster PF (VITON®/Butyl)

The Dräger TeamMaster PF is made of a particularly chemical resistant material which can also withstand mechanical stresses whilst at the same time being flame resistant. It is equipped with a zip fastener with internal metal chain and with a VITON coating on the outside.

Colour: orange. Available in three sizes.

Dräger TeamMaster PRO (HIMEX®)

The suit material is highly resistant HIMEX. With its highly resistant properties to mechanical and chemical stress and flame resistance, the suit is outstanding. Colour: blue. Available in three sizes.

The Dräger TeamMaster pro-ET

(Emergency Team) has various international approvals. Also made from HIMEX®, the suit has a zip fastener together with an internal metal chain and a VITON® coating on the outside. The gas tight zip fastener can be supplied with a single or double removable cover with a Velcro fastener.

There are four sizes available.

Colour: blue or orange.

Dräger TeamMaster Chemical Protection Suits

ORDER INFORMATION

Dräger TeamMaster (Umex)	R 29 300
Basic suit	
Dräger TeamMaster Basic suit, Size M	
Dräger TeamMaster Basic suit, Size L	
Dräger TeamMaster Basic suit, Size XL	
Dräger TeamMaster Basic suit, Size XXL	
Dräger TeamMaster PF (Viton/Butyl)	R 29 302
Basic suit	
Dräger TeamMaster PF Basic suit, Size M	
Dräger TeamMaster PF Basic suit, Size L	
Dräger TeamMaster PF Basic suit, Size XL	
Dräger TeamMaster PRO (Himex)	FR 00 096
Basic suit	
Dräger TeamMaster pro Basic suit, Size M	
Dräger TeamMaster pro Basic suit, Size L	
Dräger TeamMaster pro Basic suit, Size XL	
Dräger TeamMaster PRO ET / blue (Himex)	R 29 444
Basic suit	
All sizes incl. back pack padding	
Dräger TeamMaster pro Basic suit, Size M	
Dräger TeamMaster pro Basic suit, Size L	
Dräger TeamMaster pro Basic suit, Size XL	
Dräger TeamMaster pro Basic suit, Size XXL	
Dräger TeamMaster pro Basic suit, Size M, other cut	
Dräger TeamMaster pro Basic suit, Size L, other cut	
Dräger TeamMaster pro Basic suit, Size XL, other cut	
Dräger TeamMaster pro Basic suit, Size XXL, other cut	
Dräger TeamMaster PRO ET / orange (Himex)	R 29 445
Basic suit	
All sizes incl. back pack padding	
Dräger TeamMaster pro Basic suit, Size M	
Dräger TeamMaster pro Basic suit, Size L	
Dräger TeamMaster pro Basic suit, Size XL	
Dräger TeamMaster pro Basic suit, Size XXL	
Dräger TeamMaster pro Basic suit, Size M, wider cut	
Dräger TeamMaster pro Basic suit, Size L, wider cut	
Dräger TeamMaster pro Basic suit, Size XL, wider cut	
Dräger TeamMaster pro Basic suit, Size XXL, wider cut	

Dräger CVP 5220 Comfort Vest

The Dräger CVP 5220 Comfort Vest should be used in every operation in which high temperatures can be expected. It is immediately ready for use and makes life easier for the wearer in high ambient temperatures or when sweat inducing manual work is being carried out. It can be easily worn under protective clothing.

ST-4138-2005



Dräger CVP 5220 Comfort Vest:
Comfortable chilling effect during hot missions.

Guaranteed cooling

The cooling effect of the comfort vest is based on 22 integrated PCM-elements (Phase Change Material) whose contents reach a fluid state at a temperature of 28 °C (82.4 °F) on receipt of heat energy. At higher ambient temperatures the body temperature of the comfort vest lowers by approx. 3 to 4 °C (37.4 - 39.2 °F). Depending on body performance and ambient temperature the cooling effect is designed to last from two to three hours.

No unnecessary logistics

An ambient temperature of lower than 20 °C (68 °F) provokes a phase change and the contents of the PCM elements take

about 30 minutes up to 2 hours to return to a solid state.

Many areas of application

The heavy combustible Dräger CVP 5220 Comfort Vest offers a wide range of applications, particularly under a gas tight chemical protection suit (e.g. from the TeamMaster-series) and is used in industry, mining, shipping or fire-fighting. It ensures reliable comfort cooling under operational clothing.

Comfortable to wear

The vest is easily put on and secured with a Velcro fastener. It is light weight meaning it is easy to carry. Available in four sizes.

TECHNICAL DATA

Body temperature difference with Comfort Vest	3° to 4°C, (37.4 - 39.2 °F)	
Operational time	ca. 1.5 to 3 hours	
Weight complete, incl. cooling unit:	ca. 2.3 kg	
Cooling surface	ca. 0.22 m2	
Material (jacket)	Polyester	
Material (cooling elements)	Salt-crystal mixture, packaged in aluminium protective bag.	
Colour	inside: black	external: grey
PCM-Elements	Large: 20 pieces	Small: 2 pieces
Reusable cooling elements	at ca. +20°C (68 °F)	ca. 2 hours
	at ca. + 8°C (46.4 °F)	ca. 30 minutes
Storage conditions:	to be stored horizontally	
Storage temperature:	< 20°C (68 °F)	

ORDER INFORMATION

Dräger Comfort Vest CVP 5220, chest size:	84 to 100 cm	-> S / M	incl. 22 PCM-Elements	R 45 101
Dräger Comfort Vest CVP 5220, chest size:	100 to 116 cm	-> L / XL	incl. 22 PCM-Elements	R 45 102
Dräger Comfort Vest CVP 5220, chest size:	116 to 132 cm	-> XXL / XXXL	incl. 22 PCM-Elements	R 45 103
Dräger Comfort Vest CVP 5220, chest size:	132 to 148 cm	-> XXXXL / XXXXXL	incl. 22 PCM-Elements	R 45 100

Accessories

PCM-Element, large:	R 45 104
PCM-Element, small:	R 45 105
Transport case (blue):	R 53 373

Dräger Thermal Imaging Cameras

Dräger Thermal Imaging Cameras were specially developed for critical situations attended by fire fighters. They are essential for finding the way in darkness or in smoke filled areas and enable the user to clearly identify hazardous areas and heat zones as well as locate persons whose lives are in danger. Excellent picture quality, ergonomically perfect shape and simple operation make the camera an outstanding device.



ST-1983-2003

Dräger Thermal Imaging Cameras:

Extremely detailed and sharp thermal images.

Depending on requirements and area of application the user has the choice of several models and associated equipment. Designed primarily for the fire service the entire product family is well known for its robustness and heat resistance.

With its compact size, simple control functions, fully automatic operation and battery life of up to seven hours (when rechargeable batteries are used) the camera provides outstanding picture quality in the most difficult situations.

The most up to date sensor technology and a digital processing system ensure sharp and detailed thermal image pictures. The innovative function of the transparent colour system (Dual Transparent Colour) helps the firefighter to clearly identify heat

and danger zones and at the same time note all details.

Features such as the large LCD display, integrated temperature measurement, digital zoom or an extra video output enable more accurate and safer decisions to be taken on site. Transmitter systems for wireless high quality transfer of thermal images to various receiver stations are optional for all equipment.

Further applications

Cameras can also be used to monitor industrial production plants.

For specifications please contact your local Dräger Safety sales organisation.

Dräger Communication Systems

Even when used under extreme conditions and in dangerous situations the communication system must function in a reliable manner. The Dräger communication system offers fire crews, police and rescue services greater safety, efficiency and comfort during operations. Two-way communication sets from Dräger Service permit reliable radio communication.



ST-536-2004

Dräger Communication Systems:

High performance, unlimited application.

Good communication can be life-saving:

From its basic equipment to its very advanced sets Dräger Safety offers perfect communication solutions for a wide range of applications. Dräger communication systems support workers in public services during operations under very difficult conditions and often in noisy surroundings. The two-way radio sets are protected against wind, water and harmful substances and guarantee resistance to heat. The comprehensive system product programme offers a wide combination of personal protection equipment e.g. helmets, Dräger full masks, chemical protective clothing and portable radio equipment.

Helmet units, for example, combine loud-speakers – depending on the type of operation – with various versions of microphones. The robust but light units can be fitted very easily and quickly to a variety of helmets using practical fastener systems. The dialogue sets offer clear and reliable hands free communication. Apart from other professional applications such as when used in combination with respiratory protection masks or ear defenders Dräger Safety also offers universally applicable communication systems.

Because of the great selection of two-way radio communication sets as well as the many possible methods of connection please consult your local Dräger Safety sales organisation.

Dräger ComTac ThroatCom

The Dräger ComTac ThroatCom is a special encapsulating earphone headset complete with communication system and level-dependent sound damping. Built into the helmets HPS 6100 / HPS 6200 it is best suited for working in loud environments (offshore, shipyards) and for extreme operating conditions (helicopter, engine rooms).

ST-10192-2007



Dräger ComTac ThroatCom:
Active hearing protection and communication system.

This combination of active hearing protection and communication system allows the wearer optimal communication even with loud ambient noise because sudden noise impulses are digitally dampened.

The easy to access volume regulator of the active encapsulating earphones allows adjustments where soft sounds are heard even more clearly than without hearing protection. Two microphones pick up the ambient sounds and play back in stereo, so that the user can even identify the direction of the noise source. The integrated electronic valve detects the current sound level in the environment and dampens the volume by about 25 dB(A). As

soon as the noise level descends again, it switches back immediately to "receiver" mode.

The speech-sensitive throat microphone is worn with a velcro neckband and ensures even in difficult operating conditions clear speech transmission.

The Dräger ComTac ThroatCom is the only ATEX-authorised system of this type worldwide. It is approved to EEx ib IIB T4 and can be connected with a Dräger Com Control Unit to an Ex-approved radio (acc. to VTT 03 ATEX 045X or VTT 03 ATEX 076X).

TECHNICAL DATA

Weight	650 g
PTT	CC 400 and CC 500 (to be ordered separately)
Operating temperature limits	-20°C to +40°C
Throat microphone	Bone noise, vibration-sensitive
Housing material	ABS, oil and flame resistant
Cable	Spiral cable with Dräger/Savox universal jack
Ear protection/damping	SNR = 25 dB(A)
Explosion protection class	ATEX EEx ib IIB T4
Battery	AA, LR6 MN 1500 1.5V – Types Duracell PLUS or Duracell PROCELL exclusively due to ATEX
Battery service life	250 hours
Battery alarm	At low voltage, three warning signals are sounded every 30 seconds for five minutes – and then the device switches off automatically

ORDER INFORMATION

Dräger ComTac-ThroatCom (with throat microphone as standard)	R 35 039
Dräger C-C 400 or 500 (Com-Control unit)	on request
Accessories	
HY 68 hygiene kit	R 35 056
M60/2 wind protection for microphone	R 35 057
1162 SV battery cover	R 35 058
Bone-conducting microphone for CTTC	on request

Dräger REGIS® 300

The new Dräger REGIS 300 is a handy and robust control board for monitoring the status of team members wearing breathing apparatus during an intervention. It provides a simple display of individual entry times and allows the entry control officer to set automatic intermediate alarms after expiry of predefined times. Remember: user monitoring can save lives!

Monitoring

With the Dräger REGIS 300, you can simultaneously monitor the status of up to three teams with up to three breathing apparatus wearers per team. The board has three illuminated stopwatch displays that count down to the maximum evacuation time.

If the nature of the intervention requires team members to go temporarily beyond the distance range of the board, an external transmitter can be connected. In this case, the alarm signals from the standard built-in signal generator module can be transmitted over an extended distance of up to 40 metres.

The time of day can be briefly called up on the third display at the touch of a button. For better visibility in smoke or dark conditions, the display backlighting can also be activated at the touch of a button.

Alarms

When the maximum intervention time has expired, an electronic signal generator in the device emits a clearly audible continuous tone and provides an additional visual alarm by flashing the LED for the relevant team.

This audible and visual alarm is also emitted after one third and two thirds of the total "time to whistle", thereby providing an intermediate alarm conforming to the strict requirements of the German Fire Brigade Regulation No. 7. The time-to-whistle on the boards is factory set to 30 minutes but can be simply adjusted by push button in 10-minute or 1-minute steps.

Documentation

The user information pad with internationally understood symbols can be used to document entry control data. In addition to monitoring the elapsed time, you can also document team data, such as names, breathing apparatus, cylinder pressure and the entry time and estimated duration of each intervention. The data is simply entered on special sheets that clip on to the board and can therefore subsequently be removed.

Coloured name tags – colour-coded to indicate the different types of breathing apparatus – can also contain data on the breathing apparatus wearer (see Accessories).



ST-9432-2006

Dräger REGIS 300:
Electronic Control Board for
Breathing Apparatus.

TECHNICAL DATA

Dimensions (H x W x D):	40 x 34.5 x 4.5 cm
Weight:	Approx. 1.5 kg
Service life:	Approx. 2 years

Dräger REGIS 300

ORDER INFORMATION

Dräger REGIS 300 Control Board	(with built-in signal transmitter module)	R 55 950
Accessories		
External signal generator	with built-in receiver for visual alarm via flash signals and acoustic alarm via electronic signals. Transmission range: 40 m.	R 54 994
Name tags, in sets of 10	Available in the following versions:	
Including carabiner hook for fixing to the Dräger REGIS 300 control board	Name tags, red (Definition: short period – or normal breathing apparatus, 25 or 30 minutes)	R 54 532
(Including stickers for entering the data of the breathing apparatus wearer)	Name tags, blue (Definition: long period – or closed-circuit breathing apparatus, 120 or 240 minutes)	R 54 533
	Name tags, yellow (Definition: long period compressed air breathing apparatus, i.e. 2-cylinder unit, 50 minutes)	R 54 534

DrägerMan PSS® Merlin

A new dimension in respiratory protection monitoring: The DrägerMan PSS Merlin is the first telemetric monitoring and communication system worldwide that enables parallel operational control for up to twelve wearers allowing crews to react quickly in an emergency.



DrägerMan PSS Merlin:
Respiratory monitoring to the highest level.

DrägerMan PSS Merlin is based on the most up to date digital radio technology. The two-way communication system has three main components to meet the everyday demands of the fire service, these being the entry control board, special radio equipment and the DrägerMan Bodyguard II.

DrägerMan Bodyguard II

The DrägerMan Bodyguard® is already the second generation of completely electronic signal and warning units for compressed air breathing apparatus. Various important life saving functions are included in a single unit: Apart from the illuminated display of cylinder pressure and temperature the Bodyguard, with optical and acoustic signals, calculates the remaining air supply still based on current air consumption. It also gives a low pressure warning and manual and automatic distress signals.

Entry Control Board PSS Merlin

All compressed air breathing apparatus data is transmitted on-line to the Entry Control Board and gives the officer in charge an up to date view of all equipment wearers in operation:

- Cylinder pressure
- Temperature
- Remaining available time
- Automatic Distress Signal Alarm (ADSU)
- Manual alarm (DSU)
- Withdrawal signal
- Confirmation of withdrawal or voluntary withdrawal signal.

Active leadership

The Entry Control Board of the DrägerMan PSS® Merlin is not only a receiver station but is also a transmitter. It allows the monitor to send an evacuation message to one or all of the crew and also confirms alarm and withdraw signals.

DrägerMan PSS Merlin

Energy supply

The Entry Control Board is powered by two batteries. The charge conditions are continually monitored and displayed. The integrated radio equipment with built-in antenna relays communications to up to 12 compressed air breathing apparatus for a period of up to eight hours.

Data radio equipment

The digital ex-protected data radio equipment weighs ca. 700 g including batteries. The housing, made of antistatic Polyamide, is shock resistant, tough and waterproof. It can be easily fitted to any Dräger compressed air breathing apparatus.

Data logger

All operational data is automatically registered and can be output via a computer interface.

TECHNICAL DATA

Approvals	Telemetry	JCDD 40
	ADSU	JCDD 38
	Ex-Protection	EN 500020, EN 50014, EEx ia, IIc D 4
	EMC	EN 61000-4-3, EN 6100-6-2
	Compressed air breather	prEN 137
Power supply	Monitoring panel	re-chargeable 7.2 V, NiMH-battery
	Data radio equipment	re-chargeable 6.5 V, NiMH-battery
Weight	Monitoring panel	ca. 7.5 kg
	Bodyguard-Telemetry set, incl. data radio equipment t	ca. 0.75 kg
	DrägerMan PSS Bodyguard II	ca. 0.66 kg
Dimensions	Monitoring panel	ca. 450 x 780 x 70 mm
	DrägerMan PSS Bodyguard II	ca. 200 x 40 x 70 mm
	Data radio equipment	ca. 110 x 70 x 50 mm
	Antenna for data radio equipment	ca. 60 mm

ORDER INFORMATION

Main System Components – Control Boards and Portable Radio Units

DrägerMan PSS Merlin Entry Control Board - 869.5 MHz	33 51 145
DrägerMan PSS Merlin Entry Control Board – 450- 470 MHz	33 54 270
Portable Radio Kit – 869.5 MHz	33 50 750
Portable Radio Kit – 869.5 MHz Quick Release	33 55 057
Portable Radio Kit PSS BG4 869.5 MHz	33 54 430
Portable Radio Kit – 450 - 470 MHz	33 54 328
Portable Radio Kit (incl. battery)	33 52 184
IR Connection Kit (for use with radios with standard radio mounting)	33 52 183
IR Connection Kit – Quick Release (for use with quick release mounting)	33 55 107

System Accessories

Steel Tripod for ECB	33 51 802
Tripod Bracket	33 51 803
Red PVC Cover	33 51 812
Digital Clock	33 51 903
Duration Table 6.8 L 300 bar	33 51 845
Duration Table 9 L 200 bar	33 51 846
Duration Table 9 L 300 bar	33 51 847

DrägerMan PSS Merlin

Chinagraph Pencils (12)	33 51 237
Blank Tallies (12)	33 51 828
Battery Removal Key (4)	33 51 902
Propagation Accessories	
Portable Leaky Feeder	33 54 787
Leaky Feeder Connector Cable	33 55 188
BNC 'T' Connector	33 55 185
BNC to N Adapter	33 55 189
Antenna and Cable – 20 metre	33 55 183
Antenna and Cable – 2 metre	33 54 788
Repeater No. 1 (869.5 MHz)	33 54 306
Repeater No. 2 (869.5 MHz)	33 54 562
Repeater No. 1 (450 - 470 MHz)	33 54 789
Repeater No. 2 (450 - 470 MHz)	33 54 786
Switchbox (External Antenna – ECB mounted)	33 55 374
Switchbox (External Antenna – vehicle mounted)	33 55 513
Battery Management Accessories	
Universal Power Supply	33 51 804
Power Cord - EUR	33 51 806
Power Cord - UK	33 51 805
Power Cord - USA	33 51 807
4-way Battery Charger	33 51 815
ECB Charging adaptor	33 51 819
Vehicle Charger ECB	33 51 810
Vehicle Charger ECB Quick Release	33 54 349
Vehicle Charging Kit – Portable Unit	33 51 681
Vehicle Charger Port. Unit Quick Release	33 55 184
ECB Battery	33 51 223
Portable Unit Battery	33 50 752
Portable Radio Mounting Accessories	
Fixed Backplate Mounting LH PSS 90	33 54 276
Fixed Backplate Mounting LH PSS 100	33 54 277
Fixed Backplate Mounting RH PSS 90	33 54 278
Fixed Backplate Mounting RH PSS 100	33 54 279
Waistbelt Mounting - Quick Release	33 54 847
Backplate Mounting – PSS 90 Quick Release	33 54 848
Backplate Mounting – PSS 100 Quick Release	33 54 845
Leather Pouch	33 51 811
Datalogging Accessories	
Software for Datalogging	33 51 818
Merlin / Bodyguard Datalog Cable	33 54 304
Other Accessories	
Training Video (English)	33 55 546
Training Video (German)	33 55 547

Dräger Test-it 4100

ST-5936-2004



Dräger Test-it 4100:
For manually testing full masks.

The Dräger Test-it 4100 contains all the necessary components to test full face masks and can be used immediately at any time. It is a cost effective device which guarantees mask functionality wherever it may be used.

Mobile safety in a case

A pump ball produces the required positive or negative pressures and also inflates the test head. A second external supply of compressed air or energy supply is therefore not necessary.

The clearly visible control panel is equipped with an easy to read gauge, an electronic timer and valve control mechanism.

TECHNICAL DATA

Size	340 x 460 x 170 mm (D x W x H)
Weight	6.5 kg
Low pressure manometer range	+28 to -12 mbar, Kl. 1.6
Test time adjustable from	1 s to 99 min
Digital stopwatch	
LCD display	

ORDER INFORMATION

Dräger Test-it 4100	Mobile test instrument consisting of: test head, screw clamp, stopwatch	AG 02 400
Necessary accessories for testing face masks		
Supra holder	To retain Supra-masks on the test head	R 53 930
Low pressure test for normal pressure masks		R 53 344
Sealing plugs		
Low pressure test for high pressure masks		R 53 345
Sealing plugs		
High pressure test for normal pressure masks		
Sealing plugs	With round exhaust valve	R 53 344
Valve test plug	With round exhaust valve	R 53 349
Screwed ring	With kidney shaped exhaust valve	R 27 968
Seal	With kidney shaped exhaust valve	R 52 209
Valve test plug	With kidney shaped exhaust valve	R 26 442
High pressure test for high pressure masks		
Sealing plugs	With round exhaust valve	R 53 345
Valve test plug	With round exhaust valve	R 53 346

Dräger Test-it 6100

The new Dräger Test-it 6100 is a portable manually operated test instrument specifically designed for testing all functions of closed-circuit breathing apparatus. Including all required accessories such as adapters and hoses to test Dräger PSS BG4 it offers reliable quality at a competitive price allied to low running costs.

Flow and pressure measurement

The housing of the Dräger Test-it 6100 is robust and splash proof in accordance with IP 64 whilst the device comes complete with a power pack; alternatively it can be operated with batteries. The test sequences do not require a supply of compressed air. After being switched on the instrument performs a sensor self-test operation. Respective tests are displayed on an operating panel, which is divided into flow and pressure areas.

Easy to operate

The appropriate test pressure is generated by the integral hand pump and is finely adjusted by means of a pressure relief valve. To facilitate operation the instrument has a stopwatch to measure

time, a shut off valve for leakage tests and a key to adjust pressure. Work is speeded up by means of a two stage pressure relief operation. The Dräger Test-it 6100 is supplied with a hose to create the flow test configuration for the Dräger PSS BG4. An optional test head increases the functionality of the Dräger Test-it 6100 in order to carry out leakage tests on full masks in accordance with vfdb 0804.

PC-controlled instrument management

Apart from its manual operation the instrument can be used with a PC incorporating Adapter II software (from Version 2.00). The PC offers the user all the advantages of electronic data processing and management.

ST-2084-2006



Dräger Test-it 6100:

Complete instrument in a case closed circuit breathing apparatus.

TECHNICAL DATA

Ambient conditions	Temperature	during operation +10 °C to +45 °C	during storage (not in sunlight) +20 °C to +65 °C
	Air pressure	900 to 1200 mbar	900 to 1200 mbar
	Rel. humidity	Max. 90 %	
Case	Material	Plastic	
	Size (T x H x B)	350 x 173 x 465 mm	
	Colour	Black, inside ionised aluminium	
	Weight	ca. 5 kg	
	Connector	Round thread RD 40 (internal)	
	Voltage supply	230 V DC, via external power pack	
Measuring gauges	Pressure / flow	Numeric display on LCD, which can be switched between pressure and flow by briefly pressing button.	

ORDER INFORMATION

Dräger Test-it 6100	AG 02 690
Accessories	
Battery pack	AG 02 672
Test head, complete	R 50 572

Dräger Porta Control

Compact, robust and always easy to grip.: The Dräger Porta Control is a manually operated test instrument which can be used anywhere, with which chemical protection suits and its valves can be safely checked for leakage in accordance with vfdb Directive 0801. Any damage to the life-saving suits is immediately recognised.

ST-5638-2004



Dräger Porta Control:
Mobile test instrument for
chemical protection suits.

Completely equipped

A pump ball to produce low and high pressures is contained in the scope of delivery. An external compressed air supply is used to fill the suits for which a compressed air gun is necessary. The Dräger Porta Control is equipped with a low pressure gauge to display pressure,

a test volume to test the suction valve as well as various adapters for different chemical protection suits, test cables and hose clips. Times are measured by means of an electronic timer. The robust Dräger Porta Control housed in a practical case is an economic purchase and essential in every work place.

TECHNICAL DATA

Size	300 x 430 x 120 mm (D x W x H)
Weight	3 kg
Operating position	horizontal
Permissible temperature storage	-10 to 25 °C
Permissible humidity	< 65% rel. humidity
Pressure range	+ 25 to -10 mbar, 1.6% of final value
Scale divisions	0.5 mbar
Diameter of manometer	100 mm
Over pressure safety factor	3-times the over pressure range
Under pressure safety factor	10-times the under pressure range
Artificial lung connector	Round thread RD 40 x 1/7"

Dräger Porta Control

ORDER INFORMATION

Test instrument Dräger Porta Control	Basic instrument incl. test accessories for large CSA-valve (35 mm) consisting of: manometer (1x), test hose (SI NF 7x 2,5 m), Sealing plugs (2x), valve test plug for CSA-valve 35 mm (1x), test cap for CSA-valve 35 mm (2x), Stop watch (1x), hose clip (2x), pump ball (1x)	R 53 340
Accessories for Dräger Porta Control compressed air gun	To fill CSA	R 51 034
Spare parts	When ordering spare parts please ask for the following spare parts list: Dräger Porta Control.	E 1619.000
Necessary accessories for CSA with small CSA valve (30 mm)		
High pressure test		
Sealing disc (2 off)	For CSA-valve 30 mm	T 40 477
Low pressure test		
Rubber stopper	For 30 mm CSA valve; together with the hose grommet R 52 693 it forms the valve test connection	R 52 694
Hose grommet	For 30 mm CSA valve; together with the rubber stopper R 52 694 it forms the valve test connection	R 52 693
Necessary accessories for leakage test on CSA and full masks		
RA round thread connection		R 52 557
Connection spout R 27 977		
Connection grommet	For mask connection Z, ZS, ZST	R 28 104
Sealing plugs	For oval exhaust valve	R 26 442
Sealing plugs	For round exhaust valve	R 53 349
Test cap	30 mm	R 50 563
Necessary accessories for leakage test on full masks in CSA 500		
Test fan		R 23 588

Dräger Prestor

The Dräger Prestor is an efficient mask testing instrument with which full masks can be completely tested. It is the ideal solution if it involves testing as many masks as possible in the shortest possible time. A fully automated test procedure reliably guarantees the highest degree of consistency.

ST-2476-2003



Dräger Prestor:

For a high frequency mask testing device.

Programme controlled test sequence

Using a pneumatic tensioning device the mask is automatically located in the ideal position on the test head. The test procedure can be activated by a treadle switch if required. During the test procedure the exhaust valve is automatically moistened. The Prestor compares each mask to be tested with pre-determined test parameters and tolerances. Apart from the leakage tests carried out on masks the opening pressure of the exhaust valve can also be tested.

Time saving

By a considerably reduced preparation time and fully automated test procedures

the down-time per mask is clearly shorter. Therefore it is possible to reliably test greater numbers of masks.

User-friendly operation

The Dräger Prestor is controlled via a PC; the graphic representation of the test sequences on PC screen facilitates easier control. Test reports are automatically compiled, stored and perfectly documented.

Tested quality

The Dräger Prestor is suitable for carrying out leakage tests in accordance with vfdb 0804.

TECHNICAL DATA

Size	300 x 500 x 450 mm (D x W x H)
Weight	15 kg
Permissible temperature storage	10 to 55 °C
Permissible operational temperature	10 to 45 °C
Permissible air pressure	900 to 1200 hPa
Permissible humidity	to 90% rel. humidity
Compressed air supply	5 to 9 bar, recommended 6 bar
Voltage supply	15 V power pack
Pressure sensor	+/- 50 mbar
Series interface	

ORDER INFORMATION

Test instrument Dräger Prestor	Consisting of: basic instrument, operational software, mains cable, connecting cable for PC, user instruction manual	AG 02 000
To drive PC, monitor, printer (specification as per current tender)	If a PC is available then recommended minimum configuration Intel Pentium similar processor; operating system: Window 98 NT (4.0), 2000, XP; frequency: min. 350 MHz; Main memory min. 64 MB; free hard drive memory min. 1 GB, VGA colour graphics card and coloured monitor, second parallel interface (if first interface e.g. is used by the printer), CD drive	on request

Dräger Prestor

Accessories for PC software:	Management software: Drägerware face mask workshop, barcode scanner and barcode labels, transponder and transponder reader	on request
Accessories for Dräger Prestor		
Rubber stopper	Seals off the nose opening of the Dräger Prestor during self testing	12 94 091
Screw clamp	To secure Dräger Prestor to a table	R 50 809
Treadle switch	Enables testing to be activated without using the computer keypad	AG 02 079
Spare parts	When ordering spare parts please ask for the following spare parts list: Dräger Prestor	E 1614.950
Necessary accessories for testing masks		
Mask holder		
Supra holder complete	To test Supra-masks on the Prestor	AG 02 015
Full masks		
Sealing plugs RA	Artificial lung connection is sealed off with sealing plug	R 53 344
Leakage test of normal pressure full masks		
Sealing plugs P/PE/RP	Artificial lung connection is sealed off with sealing plug	R 53 345

Dräger Testor 2100/3100

The Dräger Testor series facilitates the testing of face masks, pressure reducers, (medium pressure function), compressed air breathing apparatus and chemical protection suits. The test units are easy to handle and combine multiple applications with the utmost reliability. Both offer tested safety in accordance with vfdB Directive 0804.

Testor 2100

This compact ergonomic test instrument tests face masks, lung demand valves, pressure reducers (medium pressure function), compressed air breathing apparatus and chemical protection suits. The robust instrument is not only easy to handle but also easy to operate. A very clear operating terminal with two gauges (low and high pressure) and joystick control make testing comfortable and uncomplicated. The test head can be inflated and deflated. An electrical timer with an audible signal indicates when the test has been completed. This table top test instrument can be used in any factory as it requires very little space.

Testor 3100

With the same function as the Testor 2100 the Testor 3100 is a PC combined test instrument which can also carry out high pressure testing. On the rear side of the Testor 3100 there are connections for the PC data cable, a voltage supply as well as the high pressure sensor. The test instrument software controls all test procedures and graphically portrays all the test sequences which can be easily checked. The Testor offers all the advantages of electronic processing of test data. All test data produced is automatically compared with the given parameters and documented. As well as data management it is possible to call up instrument history as an aid to perfect test documentation.

ST-2478-2003



Dräger Testor 2100/3100:
Easy to handle test instrument with option of PC-controlled instrument management.

Dräger Testor 2100/3100

TECHNICAL DATA

Size	300 x 515 x 335 mm (D x W x H)
Weight	5 kg
Permissible storage temperature	10 to 55 °C
Permissible operating temperature	10 to 45 °C
Compressed air supply	4 to 10 bar
Plug connector for artificial lung	European coupling
Micromanometer	-30 to +30 mbar, 1.6% of final value
Medium pressure manometer	0 to 16 bar, 1.6% of final value
Clock	LCD, digital display
Pre-selectable measurement range	1 s to 99 min

ORDER INFORMATION

Test instrument Dräger Testor 2100	Consisting of: basic instrument, inflatable test head, user instruction manual	R 53 400
Test instrument Dräger Testor 3100	Consisting of: Dräger Testor 2100 with integrated electronics and instrument software User instruction manual, external high pressure sensor, connection cable to PC USB-cable to power supply	AG 02 660

Build up sets

Build up set for Dräger Testor 2100	Build up Dräger Testor 3100	AG 02 650
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To drive

PC, monitor, printer (specification as per current tender)	If a PC is available then recommended minimum configuration: Intel Pentium similar processor; operating system: Window 98 NT (4.0), 2000. XP; frequency: min. 350 MHz; Main memory min. 64 MB; free hard drive memory min. 1 GB, VGA colour graphics card and coloured monitor, second parallel interface e.g. is used by the printer, CD drive	on request
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Accessories for PC	Management software: Drägerware, barcode scanner, barcode labels transponder, transponder readers	on request
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Accessories for Dräger Testor 2100/3100

Screw clamp	To secure Dräger Testor 2100/3100 to a table	R 50 809
Medium pressure hose	To connect Dräger Testor 2100/3100 to compressed air breather pressure reducer (extension)	R 54 380
Medium pressure check valve		AG 02 382
300 bar sensor connection	Connects sensor to T-Piece	R 50 425
200 bar sensor connection	Connects sensor to T-Piece	R 50 426
300 bar T-piece	Connector piece 300 bar (T-Piece) for sensor, bottle and pressure reducer PA	33 37 660
200 bar T-piece	Connector piece 200 bar (T-Piece) for sensor, bottle and pressure reducer PA	33 39 615

Spare parts

Dräger Testor 2100	When ordering spare parts please ask for the following spare parts list:	E 1614.200
Dräger Testor 3100	When ordering spare parts please ask for the following spare parts list:	E 1614.910

Necessary accessories for mask tests

Halter Supra	To retain Supra-masks on Dräger Testor 2100/3100 test head	R 53 930
Low pressure test for normal pressure masks		R 53 344
Sealing plugs		
Low pressure test for high pressure masks		R 53 345
Sealing plugs		
High pressure test for normal pressure masks		R 53 344
Sealing plugs	With round exhaust valve	
Valve test plug	With round exhaust valve	R 53 349
Screwed ring	With kidney shaped exhaust valve	R 27 968

Dräger Testor 2100/3100

Seal	With kidney shaped exhaust valve	R 52 209
Valve test plug	With kidney shaped exhaust valve	R 26 442
High pressure test for high pressure masks		R 53 345
Sealing plugs	With round exhaust valve	
Valve test plug	With round exhaust valve	R 53 346
Necessary accessories for artificial lung tests		
Adapter M 45 x 3 to round thread	To connect high pressure LA to round thread connection on Dräger Testor 2100/3100.	R 51 591
Adapter ESA	Required in addition to adapter R 51 591	AG 02 406
Adapter plug connection round thread		R 50 028
Low pressure test		
Sealing plugs 9/20 DIN 12871	For low pressure leakage test the medium pressure hose of the LA must be sealed.	12 94 091
Necessary accessories for chemical protection suit (CSA)-tests		
Adapter	To connect test hoses to threaded inlet of Dräger Testor 2100/3100	R 53 344
Test hose	To connect Dräger Testor 2100/3100 with CSA test cap (Recommended when ordering: 2.5 m length).	11 98 343
Hose clip	Necessary to seal hose during CSA leakage test	R 50 866
Compressed air gun	To fill CSA	R 51 034
Test cap for 35 mm CSA valve	To connect hose to CSA valve (2 x required)	R 53 289
Test cap for 30 mm CSA valve	To connect hose to CSA valve (2 x required)	R 50 563
High pressure test		
Sealing discs (2 off)	If the CSA has four valves at 30 mm, the remaining two valves to be sealed with sealing discs	T 40 477
Low pressure test		
Valve test connection	For 35 mm CSA valve	R 53 287
Rubber stopper	For 30 mm CSA valve; together with the grommet R 52 693 it forms the valve test connection	R 52 694
Hose grommet	For 30 mm CSA valve; together with the rubber stopper R 52 694 it forms the valve test connection	R 52 693
CSA with mask		
only one suction valve which is ordered separately.		
Screw ring		R 52 557
Connection grommet		R 27 977
A-valve plug		R 53 349

Dräger Quaestor III

The Dräger Quaestor III is a PC controlled universal test instrument for the complete testing of respiratory masks, lung demand valves, compressed air breathing apparatus, chemical protection suits and (optional) rebreather devices. This all rounder has proved itself best in the field with its part manual and part automatic operation. Precision and performance are on a par with the fully automated Dräger Quaestor automatic.



ST-3356-2004

Dräger Quaestor III:
Semi-automatic all rounder.

Easy to use and accurate

It is equipped with a fixed test head together with a patented, manual neck valve which reduces the test volume in accordance with vfdb 0804. The inbuilt artificial lung simulates breathing at the compressed air breathing device. A very clear PC operating panel and graphic representation of test results simplifies the test procedure. Test values and tolerances of the test sample are automatically compared at every stage of the test. The Dräger Quaestor III prepares a report and provides a review of instrument history.

Quick test procedure

During the testing procedure all necessary test pressures for Dräger Quaestor III are automatically produced, so that the complete test including gauge comparison can be carried out in less than 10 minutes.

Tested quality

The Dräger Quaestor III is suitable for carrying out leakage tests in accordance with vfdb Directive 0804.

Expanded functions

Using the flow sensors functionality tests can be carried out on rebreather devices.

TECHNICAL DATA

Size	407 x 348 x 863 mm (D x W x H)
Weight	30 kg
Permissible storage temperature	-10 to 60 °C
Permissible operating temperature	10 to 45 °C
Permissible air pressure	800 to 1200 hPa
Permissible humidity	30 to 90% rel. humidity
Voltage supply	110/230 V, 50-60 Hz
Power consumption	ca. 120 VA
Parallel computer interface	
Performance indicator	
Artificial lung with almost sine shaped breathing curve	
Respiratory frequency	1–50 l/min
Stroke volume	max. 3.4 l
Maximum respiratory volume	100 l/min
Pressure sensors	
Low pressure	±12 mbar, ±2% of final value
Low pressure	±50 mbar, ±1% of final value
Medium pressure	20 bar, ±1% of final value
High pressure	300 bar, ±1% of final value
High pressure	200 bar, ±1% of final value
Flow (optional)	1–5 l/min, ±3% of final value

Dräger Quaestor III

ORDER INFORMATION

Test instrument Dräger Quaestor III	Consisting of: basic instrument, test head, mains cable, connection cable to PC, test certificate, blue cover, low pressure coupling instrument software, user instruction manual	R 54 300
Test instrument Dräger Quaestor III F	Consisting of: basic instrument with flow sensor, test head, mains cable, connection cable to PC, test certificate, blue cover, low pressure coupling instrument software, user instruction manual	R 54 950
To drive		
PC, monitor, printer (specification as per current tender)	If a PC is available then recommended minimum configuration: Intel Pentium similar processor; operating system: Window 98 NT (4.0), 2000, XP; frequency: min. 350 MHz; Main memory min. 64 MB; free hard drive memory min. 1 GB, VGA colour graphics card and coloured monitor, second parallel interface (if first interface e.g. is used by the printer) CD drive	on request
Accessories for PC	Management software: Drägerware, face mask workshop and barcode scanner and barcode labels, transponder reader instrument	on request
Build up kit for Dräger Quaestor III		
Accessory kit: Flow sensor	To test rebreather instruments with Dräger Quaestor III Installation must be done in a Dräger workshop	AG 02 130
Accessories for Dräger Quaestor III		
High pressure connection tube	To connect Dräger Quaestor III to a high pressure supply (2 off required for 200 and 300 bar).	R 54 337
Spare parts	When ordering spare parts please ask for the following parts list: Dräger Quaestor III.	E 1627.40K
Necessary accessories for mask tests		
Supra holder	To retain Supra on the Dräger Quaestor III test head.	R 53 930
Low pressure test for normal pressure masks		R 53 344
Sealing plugs		
Low pressure test for high pressure masks		R 53 345
Sealing plugs		
High pressure test for normal pressure masks		R 53 344
Sealing plugs	With round exhaust valve	
Valve test plug	With round exhaust valve	R 53 349
Screwed ring	With kidney shaped exhaust valve	R 27 968
Seal	With kidney shaped exhaust valve	R 52 209
Valve test plug	With kidney shaped exhaust valve	R 26 442
High pressure test for high pressure masks		
Sealing plugs	With round exhaust valve	R 53 345
Valve test plug	With round exhaust valve	R 53 346
Necessary accessories for lung machine-tests		
Medium pressure hose	To connect LA with short medium pressure hose (< 600 mm)	R 54 380
Sealing cap 200 bar	Necessary for double flanged instruments to seal pressure reducer connection	U 05 875
Test of normal pressure LA without mask		
Breathing adapter QIII		AG 02 645
Adapter M 45x3 to round thread		R 51 591
Adapter ESA	Required in addition to Adapter R 51 591	AG 02 406
Adapter to round thread		R 50 028
Low pressure test		
Sealing plugs 9/20 DIN 12871	For low pressure leakage test the medium pressure hose of the LA must be sealed	12 94 091
Necessary accessories for rebreather instrument tests		
Tramix/BG4		
Respiratory adapter QIII		AG 02 645

Dräger Quaestor III

Mouthpiece RA, complete	To connect rebreather instrument to the test head	E 12 553
Adapter-connection for Round thread	To connect to mouthpiece RA	R 50 028
Sealing cap	To deactivate over pressure valve on BG4/Tramix on over pressure leakage test	R 22 086
Adapter hose to Round thread	Only for Tramix; to connect metering unit to LA adapter or Respiratory adapter	R 53 344
Travox/BG 174		
Mouthpiece RA, complete	To connect rebreather instrument to the test head	E 12 553
Rounded thread piece	To connect Travox/BG174 mouthpiece to the mouthpiece RA	E 08 124
Test plug	To seal opening in valve box cover	R 20 738
Necessary accessories for chemical protection suit (CSA) tests		
Breathing adapter QIII		AG 02 645
Adapter	To connect test hoses to LA-adapter.	R 53 344
Hose (red)	To connect CSA pressure input of Dräger Quaestor III	M 09 311
Test hose	For connect LA-adapter with CSA test cap (We recommend 2.5 m when ordering)	11 98 343
Hose clip	To clamp compressed air gun after outlet of CSA (2 x required)	R 50 866
Compressed air gun	To fill CSA	R 51 034
Test cap for 35 mm CSA-valve	To connect test hose with CSA-valve (2 x required)	R 53 289
Test cap for 30 mm CSA-valve	To connect test hose with CSA-valve (2 x required)	R 50 563
High pressure test		
Sealing disc (2 off)	If the CSA has four valves at 30 mm the remaining two valves to be sealed with sealing discs	T 40 477
Low pressure test		
Valve test connection	For 35 mm CSA valve	R 53 287
Rubber stopper	For 30 mm CSA valve; with the grommet R 52 693 it forms the valve test connection	R 52 693
Grommet	For 30 mm CSA valve; with the grommet R 52 694 it forms the valve test connection	R 52 694
CSA with mask	Only on suction valve which is ordered separately	
Screwed ring		R 52 557
Grommet		R 27 977
A valve plug		R 53 349

Dräger Quaestor automatic

Automatically greater safety: The innovative Dräger Quaestor automatic using PC control tests full face masks, lung demand valves, compressed air breathing apparatus, chemical protection suits, diving and rebreather apparatus (optional) in accordance with vfdb Directive 0804. This fully automatic test instrument sets new levels in precision and reliability assists the user with its simple operation and rapid test times.



ST-2470-2003

Dräger Quaestor automatic:
Automatic help when testing.

Automatic testing

The Dräger Quaestor automatic is equipped with an inflatable test head. The integrated lung simulates breathing on the compressed air breathing apparatus. In addition to the dynamic medium pressure, the inlet and outlet air resistances are also measured. The residual pressure warning is automatically given by the microphone. For low pressure tests the patented and, where required, automatic neck valve ensures that the back up volume is maintained.

Test instrument parameters for test samples are automatically compared with each instrument being tested. They can be changed or modified as required.

Comfortable time saving operation

Using the automatic test procedure a complete test of a compressed air breathing apparatus with gauge can be carried out in eight minutes. When testing chemical protection suits as well as expelling the air the Dräger Quaestor automatically adjusts the pressure during the resting period.

Complete documentation

The graphic representation of the test sequences are made visible on PC screen. Test reports are automatically produced and stored to give an accurate history of the apparatus.

TECHNICAL DATA

Size	407 x 348 x 860 mm (D x W x H)
Weight	40 kg
Permissible storage temperature	-10 to 60 °C
Permissible operating temperature	10 to 45 °C
Permissible air pressure	800 to 1200 hPa
Permissible humidity	30 to 90% rel. humidity
Compressed air supply	6 to 9 bar
Voltage supply	110/230 V, 50-60 Hz
Power consumption	ca. 250 VA
Series Computer Interface	RS 232
Performance indicator	
artificial lung with almost sine shaped breathing curve	
Respiratory frequency	1–50 l/min
Stroke volume	max. 3.4 l
maximum respiratory volume	100 l/min
Pressure sensors	
Low pressure	± 30 mbar, ± 1% of final value
Medium pressure	25 bar, ± 1% of final value
High pressure	300 bar, ± 0.8 of final value
Flow (optional)	1–5 l/min, ± 3% of final value

Dräger Quaestor automatic

ORDER INFORMATION

Test instrument Dräger Quaestor automatic	Consisting of: basic instrument, test head, mains cable, connection cable to PC, blue instrument cover, Dräger Quaestor automatic software, user instruction manual on CD, data logger to save and administer test results	AG 02 234
Test instrument Dräger Quaestor automatic F	As Dräger Quaestor automatic AG 02 234, also with flow sensor to test rebreather instruments	AG 02 332
Test instrument Dräger Quaestor automatic SV	As Dräger Quaestor automatic AG 02 234, also with built in high pressure valve to test PA pressure reducer safety valves	AG 02 333
Test instrument Dräger Quaestor automatic F/SV	As Dräger Quaestor automatic F AG 02 332, also with built in high pressure valve to test PA pressure reducer safety valves	AG 02 334
To drive PC, monitor, printer (specification as per current tender)	If a PC is available then recommended minimum configuration: Intel Pentium similar processor; operating system: Window 98 NT (4.0), 2000, XP; frequency: min. 600 MHz; Main memory min. 64 MB; free hard drive memory min. 1 GB, VGA colour graphics card and colour monitor, free series interface, CD drive	on request
Accessories for PC	Management software: Drägerware, face mask workshop and barcode scanner and barcode labels, transponder reader instrument	on request
Build up kit for Dräger Quaestor automatic Additional kit set Testing safety valve	To test pressure reducer safety valve Installation must be done in a Dräger workshop	
Additional kit Flow Sensor	For testing rebreather instruments with Dräger Quaestor automatic Installation must be done in a Dräger workshop Order No on request since the additional kit depends upon the serial number of the Dräger Quaestor automatic (please quote serial number)	on request
Accessories for Dräger Quaestor automatic		
Pipe connection 200/300 bar		R 54 337
Spare parts	When ordering spare parts please use the following spare parts list: Dräger Quaestor automatic	E 1627.420
Necessary accessories for mask tests		
Holder Supra	To retain Supra masks on the Dräger Quaestor automatic test head	AG 02 433
Low pressure test for normal pressure masks Sealing plugs		R 53 344
Low pressure test for high pressure masks Sealing plugs		R 53 345
High pressure test for normal pressure masks Sealing plugs	For masks with round exhaust valve	R 53 344
Valve test plug	For masks with round exhaust valve	R 53 349
Screwed ring	For masks with kidney shaped exhaust valve	R 27 968
Seal	For masks with kidney shaped exhaust valve	R 52 209
Valve test plug	For masks with kidney shaped exhaust valve	R 26 442
High pressure test for high pressure masks		
Sealing plugs	For masks with round exhaust valve	R 53 345
Valve test plug	For masks with round exhaust valve	R 53 346
Necessary accessories for lung machine tests		
Respiratory adapter	Necessary to dynamically test LA without masks; Connector normal pressure or high pressure-lung machine	AG 02 535
Connector for high pressure LA AE	To connect high pressure LA to breathing adapter	R 51 591
Connector for LA-RA	To connect normal pressure LA to breathing adapter	AG 02 543
Medium pressures hose	To extend LA-hoses	R 54 380

Dräger Quaestor automatic

Necessary accessories for rebreather instrument tests

Tramix/BG4

Respiratory adapter	For connecting rebreather instrument to the test head	AG 02 535
Adapter plug connection for round thread	For connection to mouthpiece RA	R 50 028
Seal cap	To deactivate over pressure valve on BG4/Tramix for over pressure leakage test	R 22 086
Adapter hose to round thread	only for Tramix; to connect additional metering unit to respiratory adapter	R 53 344
Travox/BG174	Respiratory adapter to connect rebreather instrument to the test head	AG 02 2535
Round threaded part	To connect Travox/BG174 to mouthpiece RA	E 08 124
Test plug	To seal opening in valve box cover	R 20 738

Necessary accessories for chemical protection suit (CSA) tests

Grommet		AG 02 500
Respiratory adapter		AG 02 535
Adapter	To connect test hoses to the LA Adapter	R 53 344
Hose (red)	To connect CSA with pressure inlet of the Dräger Quaestor automatic	M 09 311
Test hose	To connect respiratory adapter to CSA test cap (Recommended order 2.5 m)	11 98 343
Hose clip	To clamp compressed air gun after emitting CSA (2 x required)	R 50 866
Compressed air gun	To fill CSA	R 51 034
Test cap for 35 mm CSA valve	For die connect test hose with CSA valve (2 x required)	R 53 289
Test cap for 30 mm CSA valve	For die connect test hose with CSA valve (2 x required)	R 50 563

Over pressure test

Sealing disc (2 off)	If the CSA has 4 valves at 30 mm, then seal the remaining two valves with sealing discs	T 40 477
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Over pressure test

Valve test connection	For 35 mm CSA-valve	R 53 287
Rubber stopper	For 30 mm CSA-valve; together with hose spout R 52 693 forms the valve test connection	R 52 694
Hose grommet	For 30 mm CSA-valve; together with the rubber stopper R 52 694 forms the valve test connection	R 52 693
CSA with mask	Only one suction valve, which is ordered separately	
Screwed ring		R 52 557
Connection grommet		R 27 977
A valves plug		R 53 349



Diving Technology

AS PIONEERS IN THE DEVELOPMENT OF DIVING SYSTEMS, DRÄGER SAFETY HAS BEEN SUPPLYING SAFE, PROFESSIONAL DIVING EQUIPMENT SINCE 1903. TODAY, ESTABLISHED AS A WORLDWIDE LEADER IN INNOVATIVE DIVING TECHNOLOGY, WE PROVIDE RELIABLE BREATHABLE AIR TO THOSE WORKING UNDERWATER IN A WIDE RANGE OF DIFFERENT INDUSTRIES. THESE INCLUDE THE POLICE AND ARMED FORCES AS WELL AS SHIP SAFETY, OIL & GAS, THE FIRE SERVICE AND OTHER INDUSTRIES.

Having earned an excellent reputation amongst divers over the years for both functionality and safety, our total solution capabilities extend from deep-sea diving systems for diving support vessels through to Dräger Wet Bells, diving apparatus, cylinders, compressors, and underwater communications. For diving simulations, we can also offer systems that can take you down to 600 metres in depth or even deeper.

Developed with safe diving in mind, each of our systems combines optimal safety and maximum freedom with straightforward, simple operation.

In addition, and because no two applications are exactly the same, we offer a flexible approach that allows each of our systems to be configured to meet the exact needs of the diver.

For details of military and special forces equipment, please ask for our separate brochure.

Dräger PSS® Dive

Dräger PSS Dive established the proven personal safety system (PSS) for under water use. The innovative apparatus concept guarantees optimal compatibility of all components and with customer specific configurations ensures a flexible solution for safe and professional diving.



ST-2420-2003

Dräger PSS Dive:

Professional diving apparatus in different forms with innovative technology and optimal comfort.

Pneumatics: Safe breathing

The high performance breathing regulator designed to operate at 200 and 300 bar consists of a Shark 1st stage reducer with balanced piston design, high pressure 5/8" connection and a medium pressure amplifier. In combination with the Shark 2nd stage reducer the connection to the mask is safe, simple and quick. The mechanical low pressure warning device of the Dräger PSS Dive connected to the mask warns the diver when a certain residual pressure has been reached in his air supply. The warning is given by means of an acoustic, optical and tactile signal.

The carrying system: flexible and ergonomic

The ergonomically shaped and padded back plate with comfortable shoulder, hip, crotch and chest straps guarantee an optimal fit. The pull-forward system makes it easier for the diver to put on the equipment. The backpack system also includes lead weight bags (each holding 6 kg of lead) which increase safety without impairing comfort. The Dräger PSS Dive can be used for diving with one or two cylinders. There is a broad range of 6, 7 and 10 litre compressed air cylinders at 200 or 300 bar in mono or dual design together with cylinder mountings. Two tension belts and a special quick connection ensure that the cylinders remain securely in place.

The buoyancy compensator jacket: optimal positioning

The buoyancy compensator jacket is cut to a wing style. By means of its three dimensional cut it lies directly on

the body and even in a fully inflated condition it does not extend beyond the dimensions of the body.

It has a maximum buoyancy of 210 N. It can be optionally fitted with a 0.5 litre / 200 bar emergency ascent cylinder and is approved as a combined compensator and rescue apparatus.

The twin shell polyurethane layered compensating bladder with an outer shell of 1000 denier Cordura has three quick release valves and inflator hose with an integrated medium pressure hose.

The rescue vest equipment for emergencies

The Dräger PSS can also be fitted with an offshore tested rescue vest with 275 N buoyancy. It has a manually operated CO₂ cartridge.

The Dräger Panorama Nova Dive: divers mask – Extra Class

The Dräger PSS Dive apparatus configuration is perfectly adaptable to the Dräger Panorama Nova Dive full mask. The diver's mask with three external connections, nose clip to equalise pressure and head harness with quick release grip provides the diver with optimal safety, flexibility and comfort.

Dräger PSS Dive: tested and certified

Equipment configuration for Dräger PSS Dive type tested in accordance with EN 250. Dräger PSS vfdb: type tested as per vfdb directives.

Dräger PSS Dive

ORDER INFORMATION

Vfdb-Variant			
Dräger Panorama Nova Dive	Diver's full mask Three external connections, nose clip with pressure equaliser and head harness with quick release grip.		T 53 510
Carrying system	The carrying system forms the basic component of the Dräger PSS® Dive		
		(m)	T 54 032
		(l)	T 54 033
Cylinder straps	for single cylinder		T 54 038
	for twin cylinders		T 54 039
Pneumatics	Regulators, gauge, LP warning		T 54 085
Stabilising jacket	For connection to PSS Dive carrying system with 210 N buoyancy		T 54 036
Rescue collar	With manual release CO ₂ cartridge 275 N buoyancy		T 54 044
Emergency cylinder connection	For connection to 0.5 litre / 200 bar cylinder		T 54 060
Accessories vfdb-Variant			
Twin set	Belt with centre piece for connection to cylinder packages of various sizes.	6/7 litre	T 51 227
		10 litre	T 51 228
		12 litre	T 51 229
Emergency cylinder	0.5 litre / 200 bar cylinder with angled valve		T 54 062
Compressed air cylinder	available with 6/7/10 litre contents		
	6 litre / 300 bar, Mono		B 10 621
	7 litre / 200 bar, Monoo		B 10 621
	7 litre / 200 bar, Duo		B 10 621
	10 litre / 200 bar, Mono		B 10 621
	10 litre / 200 bar, Duo		B 10 621
EN-Variant			
Carrying system	Padded back carrying system with shoulder, waist and chest straps, lead jettisoning system and D-rings M or L size, configure your system alternatively with buoyancy control jacket		T 54 210
Rescue collar	Rescue system for unconscious divers, high buoyancy (275 N)		T 54 044
Pneumatics	You can easily configure the powerful pneumatics of the PSS Dive EN. You could also opt for a DIN- or INT-high pressure connection and a second stage either with mouthpiece or connection for a full mask. As an accessory you can choose Octopus finimeter, depth gauge or compass optional.		T 54 280
Compressed air cylinders	available with 6/7/10 litres		
	6 litre / 300 bar, Mono		B 10 612
	7 litre / 200 bar, Mono		T 51 213
	7 litre / 200 bar, Duo		T 51 293
	10 litre / 200 bar, Mono		T 51 262
	10 litre / 200 bar, Duo		T 51 261

Dräger PSS Dive

General Accessories			
Snorkel	Black with silicone mouthpiece		T 53 308
Diver's half mask made from black silicone	Two pane		T 53 307
Medium pressure swivel connector	To connect medium pressure hoses supplying non breathable air with the pressure reducer		T 54 103
Shark	Shark 1. and 2. stage with mouthpiece		T 51 031
Shark 2. stage	with 80 cm hose with „bite“ mouthpiece		T 51 086
Finimeter and depth gauge	Finimeter (0-400 bar) and depth gauge (0-80 m) in Duo console with 80 cm hose		T 53 703
Inflators hose	To inflate stabiliser, 120 cm long		T 54 042
	To inflate stabiliser, 78 cm long		T 54 186
Cylinder protection loop	Prevents compressed air cylinders from slipping		T 54 144
Twin set	Belt with centre piece for connection to cylinder packages of various sizes	6/7 litre	T 51 227
		10 litre	T 51 228
		12 litre	T 51 229
Octopus	Reserve lung demand valve with 100 cm hose yellow bubble ejector and „bite“ mouthpiece		T 51 035
Shark 2. stage FFM	with push in connection, 90 cm hose to connect to Panorama Nova Dive		T 54 205
Flow control valve	to manually lock the air feed at second stage. 2.		
Finimeter (0-400 bar)	with 80 cm or 120 cm hose	80 cm	T 53 701
		120 cm	T 53 625
Shark pressure reducer	with DIN connection, two HD-feeds four MD-feeds balanced and cold water compatible as per EN 250		T 51 050

Dräger Panorama Nova Dive Diving Mask

See, breathe, speak: The Dräger Panorama Nova Dive is part of a new generation of full masks which were developed especially for diving applications. The unique construction of the Dräger Panorama Nova Dive enables the diver to use it for open diving equipment systems as well as closed-circuit-apparatus. Available in four designs: for professional use, military applications, with welder's protection visor and for use with sport closed-circuit diving apparatus.

Optimal functionality

Three patented mask connections ensure optimal safety and functionality. The central connection is for the main regulator. The two side connections are provided for breathing and to accommodate a microphone for a voice unit.

Excellent fitting

Together with the new five point head harness the proven mask body ensures an excellent seal. The one operation quick opening device allows the mask to be removed from the face in a split second. An additional integrated exhalation valve ensures simple expulsion of any water that may be present.

Panoramic view

The Dräger Panorama Nova Dive has a flat visor with an extraordinarily panoramic view. Due to its shape it reduces the volume of the mask and thus buoyancy. In addition the visor has two levers; one for the nose clip to equalise the pressure and the second to operate a quick connection for the low pressure warning unit.

Simple air saving

On non attachable main breathing systems the diver can breathe ambient air on the surface of the water. In this way he does not use the air supply from his cylinders before operations begin.

Dräger Panorama Nova Dive Diving Mask:

Offers the highest degree of safety and breathing comfort.



TECHNICAL DATA

Full masks for open and closed circuit equipment

Comfortable pressure equalising system / lever system

Less mask volume

EPDM mask body with 5-point head harness, incl. patented quick opening system

Internal mask for open systems or mouthpiece for closed-circuit-apparatus

Integrated exhalation valve

Three mask connections

- Main breathing system (lung demand valve or closed-circuit-apparatus)
- Alternative gas supply / breathing regulator Shark
- Microphone (Communication unit UT 402)

Mask connection for low pressure warning only on open version systems: Panorama Nova Dive, Panorama Nova Dive Welding

ORDER INFORMATION

Panorama Nova Dive Sport (without mask case)	T 53 700
Panorama Nova Dive	T 53 510
Panorama Nova Dive R	T 52 730
Panorama Nova Dive SW, incl. protective visor for welding	T 53 525
Panorama Nova Dive NM	T 16 000
Valve mouthpiece for LAR	T 16 010
Valve mouthpiece for FGT I	T 16 020
Valve mouthpiece for Dolphin	T 53 520
Valve mouthpiece for LEBA	T 16 330
Valve mouthpiece for SMT 7000	T 16 418

Dräger Diver's Telephone UT 402

The Dräger diver's telephone UT 402 enables clear, uninterrupted communication between diver and signalman.

Two way communication belt

The Dräger UT 402 provides the diver with an audible connection to the outside world. The signalman maintains contact with the diver via the diver's two way communication system.

without hindering the diver in the execution of his tasks. The small, light surface unit is worn on a belt thus allowing the hands to be free for other tasks, whilst the communication line also serves as a safety line.

Maximum mobility

In connection with the diver's mask Dräger Panorama Nova Dive the innovative two way communication system offers an optimum quality of conversation



Dräger Diver's Telephone UT 402:

For clear uninterrupted communication under water.

TECHNICAL DATA

Surface unit	
Number of channels	2
Principle	2 way technology, 4 wire
Long signal cable	50 m / 80 m
Tensile strength of signal cable	2000 N
Power supply	8 x 1.5 V Type AA Batteries or NiMH batteries
Battery life	12 hours
Connections	for headphone 2 signal cables Signal output
Two way device	
Microphone	Dynamically pressure compensated up to 75 m
Receiver	Piezoelectric

ORDER INFORMATION

Surface unit		
Surface unit complete	(contains items 1 - 4)	T 54 052
Surface unit	Battery driven, 2 connections for diver, 1 connection for headphone (Required for operation: 8 batteries AA Type or NiMH battery)	T 54 070
Headphone / microphone	For signalman, with 2 headphones and rotary microphone	T 53 631
Waist belt	To carry surface unit	T 54 056
Transport case	For surface unit and diver's unit	T 54 055
Telephone cable		
Telephone cable, 80 m	With Hi-Use and MS connections, thimble and snap hooks	T 54 053

Dräger Diver's Telephone UT 402

Telephone cable, 50 m	With Hi-Use and MS connections, thimble and snap on hooks	T 54 054
Transport case	For telephone cable	T 53 061
Diver's unit		
Microphone and signal transmitter	Dynamic Microphone with push in connection to Dräger Panorama Nova Dive Mask, 2 piezoelectric signal transmitters	T 54 058
Cases for signal transmitter	1 pair, to house transmitter on Dräger Panorama Nova Dive Mask	T 54 057
NiMH battery		T 54 153
Charging equipment		T 54 154
Cordless communication		on request
Masks		
Full mask Dräger Panorama Nova Dive		T 53 510
Full mask Dräger Panorama Nova Dive SW		T 53 525
Full mask Dräger Panorama Nova Dive Sport		T 53 700
Full mask Dräger Panorama Nova Dive R		T 52 730

Dräger Wet Bell System

A new safety dimension: For situations in which longer hours are to be spent in depths of 100 m Dräger Safety, in close cooperation with the customer, have developed the Dräger Wet Bell System. With this innovative, modular system solution Dräger Safety offers leading edge technology applied to pre-set conditions which provides the highest degree of on-site safety and flexibility.



ST-2706-2004

Dräger Wet Bell System:
Flexible system solution for industrial use under water.

Three modules – one solution

The Dräger Wet Bell System is a flexible air and mix gas underwater system made up of modules:

- Dive control container with decompression chamber and control console
- Gas management container optional with hot water supply for divers
- Container with Wet Bell and launching mechanism.

The Wet Bell acts as a lift for two divers moving to or from destinations at depths of up to 100 m.

The decompression chamber can accommodate six divers (sitting) or two lying and can be operated at up to 100 msw (g) in a Heliox atmosphere.

The fully acclimatised container houses a decompression chamber including the operating unit as well as diver control instruments. In addition an umbilical cord for the stand-by diver is integrated in the container and is accessible from the outside. The supply container is equipped with all emergency supply requirements as well as those for the supply of breathing gas mixtures during diving and decompression chamber activities.

The materials and system design ensures mobility in accordance with international CSC standards.

The control container is certified as a suitable place to accommodate persons working offshore on deep sea vessels.

For specifications please contact your local Dräger Safety sales organisation.

TECHNICAL DATA

100m Dräger Heliox Wet Bell Diving System

Wet Bell / Handling System

	Length [m]	Width [m]	Height [m]	Weight [tons]	Power Supply [KW]
Operation	6.0	2.44	2.4	12.5	22 KW (primary); 22 KW secondary
Transport	6.0	2.44	3.2	12.5	22 KW (primary); 22 KW secondary

Dive/ Chamber Control Container

Dimension	6.0	2.44	2.4	12.5	13
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Supply Container

Dimension	6.0	2.44	2.4	13.5	30
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System Technology

NO TWO APPLICATIONS ARE THE SAME AND, WITH THIS IN MIND, OUR SYSTEM TECHNOLOGY CAPABILITY IS DESIGNED TO PROVIDE YOU WITH AN INTEGRAL SOLUTION THAT MEETS THE SPECIFIC NEEDS OF YOUR SAFETY CONCERNS. OFFERING INDIVIDUAL SOLUTIONS TO SAFETY PROBLEMS BY USING OUR BREATHING GAS, TRAINING AND WORKSHOP AND DRÄGER SAFETY ACADEMY SYSTEMS, WE PROVIDE THE INFRASTRUCTURE, EDUCATION AND TRAINING THAT ARE REQUIRED TO ESTABLISH SAFETY RELEVANT PROCESSES WITHIN YOUR PARTICULAR WORKING ENVIRONMENT.

From design and installation advice through to maintenance and staff training, Dräger System Technology can provide any type of breathing air management system. On land, at sea, stationary or mobile, this could be a deep-sea diving system with decompression chamber for the offshore industry, or an entire safety system for use in tunnelling applications complete with fire and rescue train and refuge chambers.

Working in partnership with professional, industrial and volunteer fire brigades, we can also help you to prepare for real life operational situations.

Our experts will work with you to develop a suitable training concept and a complete fire training system using realistic, safe training scenarios that cover everything from a small pan fire and how to work through a mobile training gallery, to the use of an aircraft fire training system.

As well as hot fire issues, our training programme can also cover the correct selection and use of equipment such as fire extinguishers, and how to react in emergencies with crisis management.

Individually tailored workshops can also be arranged to cover spare parts, test units,

breathing air compressors, booster pumps, washing machines, drying facilities and other accessories.

By way of further back-up, we support you in every area with our integrated software solutions, whether it be workplace management, administration or disaster management.

Dräger CombiClean

Washing, disinfecting, impregnation. The innovative Dräger CombiClean product family was especially designed to meet the requirements of the fire service. By pressing a button the machine provides individual control in order to achieve full functionality of work clothing and masks. The broad product spectrum meets all requirements relating to washing, application and purchase price.



ST-2425-2006

Dräger CombiClean:
Washing, disinfecting and
impregnating in the one machine.

Automatic programming

With a compact and easy to operate design together with microprocessor controlled programmes, masks, clothing and chemical protection suits made from Nomex® or Kermel® can be washed, disinfected and impregnated in accordance with their respective guidelines. In addition to the factory pre-programmed wash possibilities the user has the choice of storing specific wash programmes (from x to y depending on the model) – except Dräger CombiClean 55.

Easy operation

The programme is activated via the keypad on the machine or via an optional memory card at the PC.

Very economical

All Dräger CombiClean machines are characterised by their long life, low operating costs and high efficiency. Capacity varies depending on the model type from 5.5 to 24 kg dry wash, whilst drum capacity is 53 - 340 litres.

Other advantages

- Connection to washing agent metering device
- Water controlled drain valve
- Electronic temperature monitoring for safe disinfection
- Permanent out of balance / speed control. For optimal results there is a large choice of wash, impregnation and disinfecting agents available.

TECHNICAL DATA

Model	Drum Capacity litres	Speed r.p.m	Power in kW	G-Factor (WxDxH) in mm	Size net, kg	Weight	Mains Voltage
Normal Speed							
Dräger CombiClean 130	130	494	10	81	720 x 790 x 1200	183	400V/50Hz/3N
Dräger CombiClean 180	180	471	13	81	750 x 880 x 1325	222	400V/50Hz/3N
Dräger CombiClean 250	250	446	18	81	830 x 955 x 1410	282	400V/50Hz/3N
Dräger CombiClean 340	330	427	23	81	910 x 1040 x 1445	222	400V/50Hz/3N
High Speed							
Dräger CombiClean 55	53	1300	4.4	425	595 x 680 x 850	102	400V/50Hz/3N
Dräger CombiClean 65	65	1100	7.5	350	720 x 690 x 1115	154	400V/50Hz/3N
Dräger CombiClean 75	75	1100	7.5	350	720 x 690 x 1115	159	400V/50Hz/3N
Dräger CombiClean 105	105	1025	10	350	830 x 705 x 1200	212	400V/50Hz/3N
High Speed W							
Dräger CombiClean 135	130	980	13	350	910 x 785 x 1325	267	400V/50Hz/3N
Dräger CombiClean 185	180	930	18	350	970 x 870 x 1410	356	400V/50Hz/3N
Dräger CombiClean 245	240	890	23	350	1020 x 915 x 1445	429	400V/50Hz/3N

Dräger CombiClean

Capacity				
Normal speed	CombiClean 130	CombiClean 180	CombiClean 250	CombiClean 340
Full masks	15	22	30	38
CSA	1	1	2	3
HuPf-jackets	3	5	7	9
High speed	CombiClean 55	CombiClean 65	CombiClean 75	CombiClean 105
Full masks	7	8	10	12
HuPf-jackets	0	1	2	2-3
High speed W	CombiClean 135	CombiClean 185	CombiClean 245	
Full masks	15	21	26	
CSA	1	1	2	
HuPf-jackets	3-4	4-5	5-6	

ORDER INFORMATION

Normal speed			
Dräger CombiClean 130			79 04 016
Dräger CombiClean 180			79 04 000
Dräger CombiClean 250			79 04 023
Dräger CombiClean 340			79 04 001
High speed			
Dräger CombiClean 55	79 04 007	with alkali pump	79 04 006
Dräger CombiClean 65	79 04 003	with alkali pump	79 04 002
Dräger CombiClean 75	79 04 030	with alkali pump	79 04 004
Dräger CombiClean 105	79 04 008		
High speed W			
Dräger CombiClean 135			79 04 012
Dräger CombiClean 185			79 04 017
Dräger CombiClean 245			79 04 022

Dräger CombiDry

This dryer, as a member of the Dräger CombiDry product family, was especially designed for drying and treating operational clothing and masks. It is essential to ensure full functionality of any protection equipment. With this series model Dräger Safety offers a wide range to meet various requirements with respect to dryer capacity, equipment and purchase costs.

ST-9702-2006



Dräger CombiDry:
clothing and masks quickly
and easily cleaned.

High efficiency

Conditioning in the dryer is absolutely imperative for impregnated protection clothing. The Dräger tumble dryer is outstanding because of its low energy and operational costs. Precise microprocessor control guarantees splendid drying results. A permanent electronic temperature monitor provides safety even when drying sensitive textiles. Thanks to its direct drive system the Dräger CombiDry machine runs very quietly and is almost vibration free. Depending on the model the drum capacity is between 130 and 650 litres so that requirements can be reached even during high productivity levels.

Simple operation

Using a display or a keypad on the dryer all important parameters such as temperature, speed or cooling phases can be easily adjusted to individual requirements.

Other advantages

- Stainless steel drum /optional stainless steel front
- variable control of temperature and time
- large door to make handling easy
- high precision microprocessor control
- important parts easily accessible during maintenance.

TECHNICAL DATA

Model	Drum Capacity litres	Drum diameter in mm	Power in kW	Capacity kg	Size (WxDxH) in mm	Weight nett, kg	Supply voltage
Normal speed							
Dräger CombiDry 130	130	575	5.1	5.5	595 x 735 x 850	60	400V/50Hz/3N
Dräger CombiDry 190	190	680	8	7.5	720 x 745 x 1110	99	400V/50Hz/3N
Dräger CombiDry 290	286	680	18	13.5	710 x 1120 x 1880	210	400V/50Hz/3N
High speed							
Dräger CombiDry 350	349	760	18	16	790 x 1120 x 1720	169	400V/50Hz/3N
Dräger CombiDry 530	528	913	30	23	960 x 1180 x 1995	300	400V/50Hz/3N
Dräger CombiDry 650	650	913	36	29.5	960 x 1370 x 1995	340	400V/50Hz/3N

Capacity

Normal speed	CombiDry 130	CombiDry 190	CombiDry 290
Protection gear jackets	1	1-2	2-3
Masks	-	-	ca. 30
High speed	CombiDry 350	CombiDry 530	CombiDry 650
Protection gear jackets	1	1-2	2-3
Masks	-	-	ca. 30

Dräger CombiDry

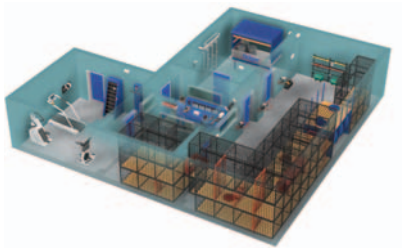
ORDER INFORMATION

Normal speed	
Dräger CombiDry 130	79 04 009
Dräger CombiDry 190	79 04 014
Dräger CombiDry 290*	79 04 015
High speed	
Dräger CombiDry 350	79 04 035
Dräger CombiDry 530*	79 04 050
Dräger CombiDry 650	79 04 075

* Additionally, these Dryers can be used for drying masks, therefore a special upgrade-kit is required. For further information please contact your local Dräger Safety sales organisation

Dräger Training Centres

The realistic conditions which are created during exercises ensure a high degree of training which significantly increases the safety of those people being rescued. Training carried out in the training centre covers physical fitness of rescue teams. Smoke equipment, darkness, background noise and obstacles during the training run create conditions which closely simulate real life situations.



ST-2282-2006

Dräger Training Centres:
Training in full clothing
under realistic conditions.

Global Experience

For over 25 years Dräger Safety has supported the fire service by providing training systems which simulate as close as possible real life situations. Hardly any other profession is subjected to such physical and mental stress whilst carrying out its duties. Training in mobile and stationary centres provides experiences which in the real world are extremely valuable not only for personal safety but also for the correct handling of the equipment.

Stationary training centres

Conventional face mask training centres offer a training area, a practice run and a control room from which the whole sequence is controlled and monitored. The training area can be equipped with various pieces of apparatus such as bicycles, treadmills or endless ladders. With the aid of a configured training programme the physical fitness of trainees can be assessed before they pass on to the practice run. Modern monitoring units such as the Cardio-Control-System permit training.

Analysis and optimisation

By constant on-line control of heart frequency dangerous stress levels are avoided. The practice run can be designed and built to customer requirements. The participants run through the course which requires walking, crawling and climbing in full protective clothing when tackling the various obstacles. To represent real life situations heat zones, fog machines or switch gear are used. As a variant the various bits of equipment can be arranged with fewer hand grips.

Mobile training centres

Mobile training centres offer all the possibilities of the stationary unit but have the decisive advantage that, by using a suitable towing machine, they can be transported from place to place. Dräger Safety offers this equipment in various trailer sizes which can be adapted to suit customer requirements. In addition the trailer roof itself can be used for training purposes.

Dräger Fire Training Systems

In real life situations there is no time to get used to stress, heat and smoke. Dräger Fire Training Centres offer optimal training opportunities to be able to assess as accurately as possible the danger potential of various types of fire. By using the many safety devices available training recreates experiences which are invaluable in the field - not only for personal protection but also for the correct handling of the equipment. Dräger Fire Training Centres are available as stationary or mobile units using gas or wood as a heating agent.



ST-2281-2006

Mobile respiratory protection training gallery:

Equipped with gas-operated fire points for efficient training at variable locations.



ST-2946-2000

Flashover container:

Solid fuel operated – the flashover fire training container.



ST-2955-2000

Combined training system:

Combination of respiratory protection training gallery and gas-operated fire training system.

Everything from the same source

For over 25 years Dräger Safety has supplied the fire service with training systems which have simulated work situations and conditions as realistically as possible. All over the world Dräger has provided fire simulation centres for its customers – a reliable partner from the planning phase right through to its after sales service. With your help our experts have devised suitable training concepts and have developed tailor-made fire training centres against a backdrop of dangerous ambient conditions. Whether it be a matter of small fire containers, a mobile training container, a real size replica situation for a fire on an aircraft or a fire house, we will devise fire training centres using modular systems. To do this we will take into account your financial situation and will offer help in this direction when costing the system.

Mobile and individual

In order that you are mobile with your fire practice centres and can undertake training wherever the trainees are, we have implemented realistic fire scenarios in mobile fire training centres. We will equip your training centre with different universal fire elements. Combinations of fire practice equipment with a fitness run and/or mask runs are equally possible as are wood fired flashover containers.

Because of smoke development patterns you learn to recognise flashovers in good time and so prevent them.

Training with life size models

We build aircraft simulators to your specification of a combination of various types of aircraft so that different practice situations can be set up. For example escaping and ignited kerosene represent the most dangerous of situations when tackling aviation fires. Dräger Safety practice areas designed to combat burning fluids offer optimal conditions in order to be prepared for such incidents.

House or industrial fire

We are completely at your disposal. You can train for various fire situations such as garage fires, kitchen fires or burning sofas. In addition you can be prepared as well as possible for real life situations using industrial fire fighting equipment. We design individual tanks, piping systems with leakages or complete industrial rigs with various fire points in direct cooperation with the customer even in the planning stage.

Dräger Mobile Compressors

Dräger Safety mobile breathing air compressors are characterised by their robustness, outstanding technical equipment and long life. In addition in a professional continuous operation they have proved to be reliable high performance machines. Innovative filtration systems guarantee the purest air in accordance with DIN EN 12021.

Compressor blocks are the heart of mobile equipment

Compressor modules were designed for demanding continuous operation. The blocks are series manufactured with intermediate and after cooling units made from galvanised stainless steel. They withstand the most vigorous use and are corrosion resistant under all climatic conditions.

The Dräger Junior 100, Dräger Capitano 140 and Dräger Oceanus 140 are renowned for their very compact size and light weight. Mobile breathing air compressors are particularly suitable for smaller fire stations and recreational diving. With their small dimensions they fit into any place. The machines can be used in absolute safety since all moving parts are well protected.

The Dräger Oceanus 140 is ideal for off-shore use. The large capacity oil sump permits the machine to be operated at angles of up to 30°.

Compressors for the recently developed Profi-Line II, Dräger Mariner and Dräger Capitano 140 are designed for the fire service and filling station operators who in addition to the machines robust appearance place high value on its economy, long life qualities and modular design.

Extremely durable compressor block ensures maximum reliability during operation. The maintenance free low pressure oil pump guarantees reliable lubrication.

The Dräger Mariner is available in three designs (200, 250, 320). With its output of 320 litres per min Dräger Safety has produced the Dräger Mariner 320 as the most powerful portable compressor in the world.

The comprehensive accessory programme complies with requirements from every application.



ST-773-2004

Dräger Mobile Compressors:
Compact, robust and powerful.

ORDER INFORMATION

Dräger JUNIOR 100

E = Three phase motor 400 V / 50 Hz

B = Petrol engine

W = AC motor 230 V / 50 Hz

Dräger JUNIOR 100 - E PN 225 bar	65 31 083
Dräger JUNIOR 100 - E PN 330 bar	65 31 047
Dräger JUNIOR 100 - E PN 330/225 bar	65 31 085
Dräger JUNIOR 100 - W PN 225 bar	65 31 086
Dräger JUNIOR 100 - W PN 330 bar	65 31 048
Dräger JUNIOR 100 - W PN 330/225 bar	65 31 088
Dräger JUNIOR 100 - B PN 225 bar	65 31 089
Dräger JUNIOR 100 - B PN 330 bar	65 31 090
Dräger JUNIOR 100 - B PN 330/225 bar	65 31 091

Dräger Mobile Compressors

Dräger OCEANUS 140

Dräger OCEANUS 140 - E PN 225 bar	65 31 092
Dräger OCEANUS 140 - E PN 330 bar	65 31 093
Dräger OCEANUS 140 - E PN 330/225 bar	65 31 094
Dräger OCEANUS 140 - B PN 225 bar	65 31 095
Dräger OCEANUS 140 - B PN 330 bar	65 31 096
Dräger OCEANUS 140 - B PN 330/225 bar	65 31 097
Dräger OCEANUS 140 - W PN 225 bar	65 31 266
Dräger OCEANUS 140 - W PN 330 bar	65 31 267
Dräger OCEANUS 140 - W PN 330/225 bar	65 31 268

Dräger Capitano 140

Dräger CAPITANO 140 - E PN 225 bar	65 31 098
Dräger CAPITANO 140 - E PN 330 bar	65 31 099
Dräger CAPITANO 140 - E PN 330/225 bar	65 31 100
Dräger CAPITANO 140 - B PN 225 bar	65 31 101
Dräger CAPITANO 140 - B PN 330 bar	65 31 102
Dräger CAPITANO 140 - B PN 330/225 bar	65 31 103

Dräger Mariner 200

Dräger MARINER 200 - E PN 225 bar	65 31 116
Dräger MARINER 200 - E PN 330 bar	65 31 117
Dräger MARINER 200 - E PN 330/225 bar	65 31 118
Dräger MARINER 200 - B PN 225 bar	65 31 119
Dräger MARINER 200 - B PN 330 bar	65 31 120
Dräger MARINER 200 - B PN 330/225 bar	65 31 121

Dräger Mariner 250

Dräger MARINER 250 - E PN 225 bar	65 31 110
Dräger MARINER 250 - E PN 330 bar	65 31 111
Dräger MARINER 250 - E PN 330/225 bar	65 31 112
Dräger MARINER 250 - B PN 225 bar	65 31 113
Dräger MARINER 250 - B PN 330 bar	65 31 114
Dräger MARINER 250 - B PN 330/225 bar	65 31 115

Dräger Mariner 320

Dräger MARINER 320 - E PN 225 bar	65 31 104
Dräger MARINER 320 - E PN 330 bar	65 31 105
Dräger MARINER 320 - E N 330/225 bar	65 31 106
Dräger MARINER 320 - B PN 225 bar	65 31 107
Dräger MARINER 320 - B PN 330 bar	65 31 108
Dräger MARINER 320 - B PN 330/225 bar	65 31 109

Dräger Stationary Compressors

Flexible and powerful: Dräger Safety develops compressors which provide compressed breathing air which are used all over the world. Outstanding design, innovative technologies and first class materials ensure the longevity of stationary high pressure air compressors which are used in the fire service, industry and recreational diving.



ST-770-2004

Stationary Compressors:

Indestructible, easily dismantled and a safe investment.

Modular construction

The vertical design of the compressor enables it to be used in the smallest spaces. All filling valves are located within a comfortable arm's-length. Stationary compressors are built in modular form to provide the most flexible application. The modular principle makes it easy to add on to the system e.g. filter systems, fill strips or noise protection covers. The user-friendly housing or attachable side covers provide optimal access for maintenance. Various connections permit safe and comfortable filling of compressed air bottles at 200 to 300 bar.

Highest degree of safety

Dräger air compressors are semi or fully automated machines equipped with all the necessary safety and control devices. In accordance with DIN EN ISO 9001 and TÜV-/GS-test certificates Dräger Quality Management offers users the highest investment guarantee.

Innovative filter systems ensure safe supply of the purest air in accordance with DIN EN 12021. Users have at their disposal a wide range of stationary compressors. From the compact complete station Dräger Mini Verticus III with 150 L / min. to the Dräger Verticus V5 (680 L / min) with electronic control for fully automated start-stop operation.

Dräger Mini Verticus III

Economic and compact: The sound-proofed complete station with series condensation device for semi-automatic operation.

Dräger Verticus 5

Quiet and easily built: The powerful fill centre can be extended with the minimum expenditure.

Dräger KAP 500-S / V 500-S

If large volumes are required the powerful and user-friendly 500 litre equipment can be expanded in modular form.

Dräger KAP 5

As quick as the fire service: Recommended to be used where large volumes of air are required and noise levels are of secondary importance. Simple to use due to its easily read LCD display with choice of languages.

Everything from a single source

From planning customer specific compressor equipment, through assembly and TÜV inspection to staff training on the equipment, the customer can rely upon the complete service of Dräger Safety.

Dräger Stationary Compressors

ORDER INFORMATION

Compressor Dräger VERTICUS 5	
Compressor V 260 PN 225 bar	65 26 600
As described above in Super Silent design with an air supply of 260 litres / min	
Compressor V 260 PN 330 bar	65 26 601
As described above, in Super Silent design with an air supply of 260 litres / min	
Compressor V 260 PN 225/330 bar	65 26 602
As described above, in Super Silent design with an air supply of 260 litres / min	
Compressor V 260 330 bar without filling device	65 26 603
As described above, in Super Silent design with an air supply of 260 litres / min	
Compressor V 320 PN 225 bar	65 26 604
As described above, in Super Silent design with an air supply of 320 litres / min	
Compressor V 320 PN 330 bar	65 26 605
As described previously, in Super Silent design with an air supply of 320 litres / min	
Compressor V 320 PN 225/330 bar	65 26 606
As described previously, in Super Silent design with an air supply of 320 litres / min	
Compressor V 320 PN 330 bar without filling device	65 26 607
As described previously, in Super Silent design with an air supply of 320 litres / min	
Compressor V 500 PN 225 bar	65 26 608
As described previously, in Super Silent design with an air supply of 540 litres / min	
Compressor V 500 PN 330 bar	65 26 609
As described previously, in Super Silent design with an air supply of 540 litres / min	
Compressor V 500 PN 225/330 bar	65 26 610
As described previously, in Super Silent design with an air supply of 540 litres / min	
Compressor V 500 PN 330 bar without filling device	65 26 611
As described previously, in Super Silent design with an air supply of 540 litres / min	
Compressor V 600 PN 225 bar	65 26 612
As described previously, in Super Silent design with an air supply of 680 litres / min	
Compressor V 600 PN 330 bar	65 26 613
As described previously, in Super Silent design with an air supply of 680 litres / min	
Compressor V 600 PN 225/330 bar	65 26 614
As described previously, in Super Silent design with an air supply of 680 litres / min	
Compressor V 600 PN 330 bar without filling device	65 26 615
As described previously, in Super Silent design with an air supply of 680 litres / min	

Dräger Stationary Compressors

Compressor Dräger KAP 5

Compressor KAP 260 PN 225 bar	65 26 620
As described previously, design to be finalised with an air supply of 260 litres / min	
Compressor KAP 260 PN 330 bar	65 26 621
As described previously, design to be finalised with an air supply of 260 litres / min	
Compressor KAP 260 PN 225/330 bar	65 26 622
As described previously, design to be finalised with an air supply of 260 litres / min	
Compressor KAP 260 PN 330 bar without filling device	65 26 623
As described previously, design to be finalised with an air supply of 260 litres / min	
Compressor KAP 320 PN 225 bar	65 26 624
As described previously, design to be finalised with an air supply of 320 litres / min	
Compressor KAP 320 PN 330 bar	65 26 625
As described previously, design to be finalised with an air supply of 320 litres / min	
Compressor KAP 320 PN 225/330 bar	65 26 626
As described previously, design to be finalised with an air supply of 320 litres / min	
Compressor KAP 320 PN 330 bar without filling device	65 26 627
As described previously, design to be finalised with an air supply of 320 litres / min	
Compressor KAP 500 PN 225 bar	65 26 628
As described previously, design to be finalised with an air supply of 540 litres / min	
Compressor KAP 500 PN 330 bar	65 26 629
As described previously, design to be finalised with an air supply of 540 litres / min	
Compressor KAP 500 PN 225/330 bar	65 26 630
As described previously, design to be finalised with an air supply of 540 litres / min	
Compressor KAP 500 PN 330 bar without filling device	65 26 631
As described previously, design to be finalised with an air supply of 540 litres / min	
Compressor KAP 600 PN 225 bar	65 26 632
As described previously, design to be finalised with an air supply of 680 litres / min	
Compressor KAP 600 PN 330 bar	65 26 633
As described previously, design to be finalised with an air supply of 680 litres / min	
Compressor KAP 600 PN 225/330 bar	65 26 634
As described previously, design to be finalised with an air supply of 680 litres / min	
Compressor KAP 600 PN 330 bar without filling device	65 26 635
As described previously, design to be finalised with an air supply of 680 litres / min	

Dräger Stationary Compressors

Compressor Dräger V 500-S / KAP 500-S

Compressor V 500-S – PN 225 bar	65 30 534
As described above, with an air supply of 500 litres / min	
Compressor V 500-S – PN 330 bar	65 30 535
As described above, with an air supply of 500 litres / min	
Compressor V 500-S – PN 225/330 bar	65 30 536
As described above, with an air supply of 500 litres / min	
Compressor V 500-S – PN 330 bar – without filling device	65 30 537
As described above, with an air supply of 500 litres / min	
Compressor KAP 500-S – PN 225 bar	65 30 538
As described above, with an air supply of 500 litres / min	
Compressor KAP 500-S – PN 330 bar	65 30 539
As described above, with an air supply of 500 litres / min	
Compressor KAP 500-S – PN 225/330 bar	65 30 540
As described above, with an air supply of 500 litres / min	
Compressor KAP 500-S – PN 330 bar – without filling device	65 30 541
As described above, with an air supply of 500 litres / min	

Dräger Mini Verticus III

Compressor MV III 150 – PN 225 bar	65 32 108
As described above, with an air supply of 150 litres / min	
Compressor MV III 150 – PN 330 bar	65 32 109
As described above, with an air supply of 150 litres / min	
Compressor MV III 150 – PN 225/330 bar	65 32 110
As described above, with an air supply of 150 litres / min	
Compressor MV III 150 – PN 330 bar without filling devices	65 32 111
As described above, with an air supply of 150 litres / min	
Compressor MV III 200 – PN 225 bar	65 32 112
As described above, with an air supply of 200 litres / min	
Compressor MV III 200 – PN 330 bar	65 32 113
As described above, with an air supply of 200 litres / min	
Compressor MV III 200 – PN 225/330 bar	65 32 114
As described above, with an air supply of 200 litres / min	
Compressor MV III 200 – PN 330 bar without filling devices	65 32 115
As described above, with an air supply of 200 litres / min	
Compressor MV III 250 – PN 225 bar	65 32 116
As described above, with an air supply of 250 litres / min	
Compressor MV III 250 – PN 330 bar	65 32 117
As described above, with an air supply of 250 litres / min	
Compressor MV III 250 – PN 225/330 bar	65 32 118
As described above, with an air supply of 250 litres / min	
Compressor MV III 250 – PN 330 bar without filling devices	65 32 119
As described above, with an air supply of 250 litres / min	

Dräger Oxygen Booster DOB-H

The portable Dräger Oxygen Booster DOB-H is manually operated and is characterised by its flexible application – without the need for a power supply. The Dräger oxygen fill pump is a single stage, double acting piston pump working at a max. 200 bar and is essential for all applications in which high pressure oxygen must be quickly and easily available in cylinders.



ST-6766-2006

Dräger Oxygen Booster DOB-H:

Small, light, efficient and safe.

Areas of application:

- fire service
- mining
- recreational diving
- medicine
- central relief organisations, disaster prevention, red cross, industry, and the military.

Using levers and muscle strength oxygen is pumped from supply cylinders to equipment cylinders.

Flexible and portable

Equipped with complete filling logistics inc. valves, extension hose and gauges the Dräger Booster DOB-H can be used anywhere.

Even in places without power supply and in emergency situations it is immediately ready for use. The pump can be supplied as a wall mounted version. The Dräger Oxygen Booster DOB-H is supplied in a robust easily portable plastic case. Tools and spare parts are supplied with the machine. A flexible high pressure hose with an adapter is available to connect several cylinders to the machine.

Tested safety

The O₂ filling connections are supplied in accordance with ISO 9100 and are TÜV approved.

TECHNICAL DATA

Rated pressure	PN 200 bar
Max. operating pressure	220 bar
Type drive	Hand operated
Pump	Dry running – double piston compressor
Charging connection	G 3/4 DIN 477
Dimensions of holder [L x W x H in mm]	ca. 625 x 420 x 270
Weight [kg]	ca. 50

ORDER INFORMATION

Dräger DOB-HG 200 (free standing version, G 3/4, PN 200 bar)	65 30 600
Dräger DOB-HT 200 (free standing version, G 3/4, PN 200 bar)	65 31 300
Dräger DOB-HW 200 (wall mounted version, G 3/4, PN 200 bar)	65 31 000
High pressure angled connecting hose; 0.3 m-G 3/4	65 31 049
High pressure angled connecting hose; 1.5 m-G 3/4	65 31 046
High pressure angled connecting hose; 0.3 m-G 3/4	65 31 063

Dräger Oxygen Booster DOB-M/T (mobile)

A complete power pack: The Dräger Oxygen-Booster DOB-M and DOB-T transfers oxygen from supply cylinders into apparatus cylinders at pressures up to 200 bar. The double stroke electrically driven pump and simultaneous filling of up to four cylinders ensures shorter filling times and greater efficiency. With comparable performance of the stations the user has the choice between a mobile (DOB-M) and a table version (DOB-T).

Areas of application

Dräger Safety oxygen fill stations are suitable for any place where constant application, quality and economy are required. They are used in all areas in which high pressure oxygen is required in cylinders:

- mining
- diving
- fire service
- medicine
- central relief organisation
- catastrophe protection, red cross, industry
- military.

Simple operation

The control panel is incorporated such that it is easily read. With relatively few hand operations up to four cylinders can be filled simultaneously.

Complete filling logistics

The Dräger Oxygen Booster DOB-M/T is equipped with an electrically driven pump. Supplied with complete fill logistics including valves and gauges the machine is always ready for use.

Proven safety

The oxygen transfer unit is manufactured in accordance with ISO 9001 is TÜV and BAM approved.

ST-9714-2008



Dräger Oxygen Booster DOB-M/T (mobile):

Compact transfer station in two versions.

TECHNICAL DATA

Rated pressure	PN 200 bar
Max. operational pressure	220 bar
Mains supply	400 V, 50 Hz; optional 60 Hz / 3 x 230 V
Control voltage	24 V AC
Mains plug	CEE 16 A CE
Motor	1.1 kW
Pump	Dry running – Double stroke piston compressor
Charging connection	4 x PN 200 optional customer specific fill connection available
Dimensions Dräger DOB-T [L x W x H, mm]	ca. 710 x 520 x 680
Dimensions Dräger DOB-M [L x W x H, mm]	ca. 825 x 605 x 761
Weight Dräger DOB-T	108 [kg]
Weight Dräger DOB-M	115 [kg]

ORDER INFORMATION

Dräger Oxygen Booster DOB-T (W 21.8 x 1/14"; PN 200 bar)	65 27 195
Dräger Oxygen Booster DOB-T (G 3/4; PN 200 bar)	65 27 200
Dräger Oxygen Booster DOB-M (W 21.8 x 1/14"; PN 200 bar) incl. Transport Container	65 26 802
Dräger Oxygen Booster DOB-M (G 3/4; PN 200 bar) incl. Transport Container 65 27 190 Nato-Stock-No.: 4320-12-353-8813	65 26 900

Dräger Oxygen Booster DOB 200/300 (stationary, electrically driven)

The Dräger Oxygen Booster (DOB 200) was designed for stationary use. It transfers oxygen from supply bottles to apparatus cylinders at pressures up to 300 bar. The double acting electrically driven pump and simultaneous filling of up to four cylinders ensures shorter filling times and greater efficiency.

ST-9719-2006



Dräger Oxygen Booster DOB 200/300:

Short fill times and economical operation.

Areas of application

Dräger Safety oxygen fill stations are suitable for any place where constant application, quality and economy are required. They are used in all areas in which high pressure oxygen is required in cylinders:

- in mining
- diving
- fire service
- medicine
- central relief organisation
- catastrophe protection, red cross, industry
- military.

Simple operation

The control panel is incorporated so that it is easily read. With relatively few hand operations up to four cylinders can be filled simultaneously.

Complete filling logistic

The Dräger Oxygen Booster DOB-M/T is equipped with an electrically driven pump. Equipped with complete fill logistic including valves and manometers the machine is always ready for use.

Tested safety

The oxygen transfer unit is manufactured in accordance with ISO 9001 is TÜV and BAM approved.

TECHNICAL DATA

Rated pressure	PN 200 / 300 bar
Max. operational pressure	220 / 330 bar
Mains supply	400 V, 50 Hz; optional 60 Hz / 3 x 230 V
Control voltage	24 V AC
Mains plug	CEE 16 A CE
Motor	1.1 kW
Pump	Dry running – two stroke piston compressor
Charging connection	4 x PN 200 or PN 300 bar or 2 x PN 200 and 2 x PN 300 bar, optional customer specific fill connection available
Dräger DOB-T [L x W x H, mm]	ca. 710 x 520 x 680
Dimensions [L x W x H, mm]	ca. 680 x 580 x 1100
Weight [kg]	ca. 135

ORDER INFORMATION

Dräger Oxygen Booster DOB 200 (4 x G 3/4)	65 26 750
Dräger Oxygen Booster DOB 200 (4 x W 21.8)	65 27 350
Dräger Oxygen Booster DOB 200/300 (2 x G 3/4 / 2 x Oxy-SR)	65 26 430
Dräger Oxygen Booster DOB 300 (4 x Oxy-SR)	65 26 915

Dräger Nitrox 200

With its gas mixing and filling unit the Dräger Nitrox 200 can be manufactured with oxygen enriched breathing air used for diving operations. The manually controlled system mixes and fills Nitrox gas consisting of oxygen (up to 200 bar) and breathing air (up to 200 bar).



ST-9728-2006

Dräger Nitrox 200:
Gas mix and fill unit
for Nitrox gases.

The Dräger Nitrox 200 system provides an ideal gas for medium depth diving operations. Due to its reduced nitrogen content diving times are increased whilst increased nitrogen promotes greater well being.

Fill logistics

The Dräger Nitrox 200 has a connection for high pressure oxygen and high pressure breathing air as well as a high pressure Nitrox filling connection to fill Nitrox cylinders with a volume of up to 12 litres / 200 bar. Larger Nitrox cylinders can be filled via a filling hose. The unit is equipped with a digital precision gauge (0 to 300 bar / oxygen 0 to 210 bar) to give

minimum and maximum pressures. The oxygen analysis instrument Dräger Pac III is ideal for checking the oxygen content of the gas mixture.

The Dräger Nitrox 200 was designed for operations using oxygen and meets the required cleanliness demands for oxygen. It is authorised for use in Germany. Because of its low weight (4.5 kg) the machine can be easily transported. The special case is available as an accessory. A wall bracket is available to save space during storage.

TECHNICAL DATA

Principle	Device to mix Nitrox made up of oxygen and breathing air
Oxygen supply	Oxygen e.g. 50 litres/200 bar
Compressed air supply	Breathing air DIN EN 12021 – 200 bar
Charging connection	M24 x 2 (EN 144-Part 2) Standard connection, others on request
Mixing pressure display	Digital gauge 0...300 bar (for oxygen 0...210 bar)
Dimensions [Lx W x H, mm]	ca. 190 x 120 x 200
Weight [kg]	ca. 4.5
Approved	TÜV

ORDER INFORMATION

Dräger Nitrox 200	65 30 000
Dräger PAC IIS O ₂ measuring instrument 0...100%	83 13 650
Oxygen sensor XS O ₂ 100	68 09 550
Adapter (hose connection)	68 06 291
Alkali/Lithium power supply T4, without battery	45 30 350
9V Lithium Battery T4	64 08 026
9V Alkali-Battery T6	83 13 656
Wall bracket	65 30 016
Oxygen supply hose, both sides G 3/4	65 30 017
Breathing hose supply hose, M 16x1.5 and G 3/4	65 30 018
Transport case	65 30 019
Collection pipe for three cylinders 50 L/200 bar, G 3/4	U 00 383
Fill hose (NITROX) PN 200. M24x2	65 25 223
Connector to gauge	65 25 271

Dräger Fire and Rescue Train

Rescue operations in underground tunnels present rescue teams with insurmountable problems. Poor vision, smoke and long distances in particular make any operations difficult. Dräger Safety has designed a universally unique rescue system. Equipped with innovative technologies the Dräger Safety Fire and Rescue Train offers a high degree of safety for both rescuers and victims.

ST-4132-2005



Dräger Fire and Rescue Train:
A world wide unique rescue system.

Help on rails

With fire and rescue trains rescue teams can reach problematic sites in safety. Without compromising on site operations passengers can be evacuated from the accident site in special rescue containers. The containers can be hermetically sealed against any contamination of outside air. Internal breathing air is provided by on board air banks and purified and prepared for re-breathing in a closed circuit. This offers rescued persons and emergency crews the opportunity of spending several hours in the safety of the container without having to rely on breathing masks. Gas and temperature sensors, over pressure technology, air locks with smoke filters as well as multi-stage smoke prevention

systems prevent smoke as far as possible from gaining access to the container when persons are entering.

To successfully coordinate operations trains are equipped with places for team leaders according to specific guidelines. Using measuring, communication and radio technology as well as thermal image cameras monitoring of events is guaranteed. In-built quick fill devices for breathing air equipment ensures greater flexibility for rescue teams on site. The use of fire and rescue trains with regard to numbers of persons transported, duration of operation and fire fighting technology depends upon customer requirements.

For specifications please contact your local Dräger Safety sales organisation.

Dräger Refuge Chamber

Tunnel construction personnel face serious risks in their work underground. Building sites which are a long way into the tunnel and branch out in different directions mean that it is virtually impossible to escape through the smoke-filled tunnel in the event of a fire.



ST-1793-2005

Dräger Refuge Chamber:
Increasing the safety of your workers in an underground emergency.

As early as 1985 Dräger designed a refuge chamber for exactly this type of hazard situation. In subsequent years this concept has been constantly improved.

The chamber provides a safe breathing atmosphere by way of supplying breathable air from either an on-site airline system or an independently supplied system. Both systems create a slight positive pressure within the chamber and thus prevent any contaminated air from entering the chamber. Furthermore the chamber is provided with seating for the number of people

needing to be accommodated and can be equipped with a wide range of features including CO₂ scrubbing, O₂ supply, air conditioning, gas monitoring and self-rescuers.

Recent fires in tunnels have shown that rescue crews are only able to reach the affected persons after many hours. This knowledge has resulted in the fact that the required duration of stay in the chamber has been extended to between 8 and 24 hours.

Dräger Diver Decompression Chambers

Because of their functionality and reliability Dräger diving and rescue chambers have an excellent worldwide reputation. Products as well as services are subject to the highest quality demands. The Dräger Safety delivery programme can provide different solutions which can be tailored to individual customer requirements by means of countless furnishing options.



ST-6727-2005

Dräger Diver Decompression Chambers:

Mobile and stationary internationally first choice.

Diver decompression chambers are essential in every professional diving procedure whether it is as a first aid solution or for recreational diving or diving during industrial or military operations. From transportable one man decompression chambers to a combination of diver chambers and comfortable medical treatment areas Dräger Safety offers a tailor-made solution to meet respective requirements.

Mobile units

Manufactured as one man or two man chambers (Dräger EMK, Dräger DUOCOM, Dräger SuperDUOCOM), they guarantee direct and fast compression or decompression of a person at the diving site. Made from high quality sea water resistant aluminium, its low weight and volume make it easy to transport by lorry or helicopter to the nearest treatment centre.

The "On Board" breathing gas supply is fitted directly to the chamber or to the transport vehicle. All operating controls are located in the centre of the chamber which makes them easy to get to and facilitates easy function control personnel locks convert the Dräger SuperDUOCOM decompression chamber into an individualised decompression chamber.

Stationary units

As multi-person chambers installed in a building or as a special solution for rough offshore areas in a 20" ISO steel container they permit the treatment of up to 10 persons.

The Dräger Safety stationary systems (Dräger DECOM, Dräger TDS1, Dräger TDS FB) combine functionality with maximum comfort for the occupants. They enable comprehensive medical treatment to be given to divers be they ill or have been the victims of an accident. They are also used for diver training and medical tests carried out under controlled conditions. Divided into pre and main chambers medical staff can move in and out without disturbing the treatment of injured divers. All control instruments are located together in a clearly visible control panel on the outside of the chamber.

A comprehensive accessory programme together with optional furnishings means the chamber can be modified to customer requirements to include air conditioning, heating, CO₂ absorption, fire fighting systems, and choice of operating pressure depending on the area of application. Using the Dräger connector flange (DIN/NATO Standard) other decompression chambers can be attached where necessary.

Servicing

The influence of weather conditions and wear and tear do not go unnoticed with this robust decompression chamber. To maintain complete functionality on any site Dräger offers a comprehensive overhaul service.

Dräger Diver Decompression Chambers

TECHNICAL DATA

Stationary compression chamber system for up to 10 persons							
Model	Internal diameter [mm]	Length VK/HK [mm]	Volume [litres]	Weight (ca.) [kg]	Operating pressure [bar]	Gas Supply	Connector flange
Dräger TDS FB	1,980	1,000/3,200	13,500	5,200	5.5/11	High pressure Breathing air oxygen	DIN 13256 (NATO - Stanag1079)
For up to 8 persons							
Dräger TDS 1-1800	1,800	1,200/2,400	9,200	ca. 4,200	5.5/11	High pressure breathing air and oxygen	DIN 13256 (NATO - Stanag1079)
Dräger TDS 1-2000	2,000	1,200/2,700	10,500	ca. 5,000	5.5/11	High pressure breathing air and oxygen	DIN 13256 (NATO - Stanag1079)
Compressions and Treatment							
Model	Height overall [mm]	Internal- diameter [mm]	Volume [litres]	Weight (ca.) [kg]	Operating pressure [bar]	Gas supply / storage	
Dräger DECOM 1400	1,600	1,380	4,200	3,600	5.5	120.000 NL Air @ 300 bar in 50L cylinders 20.000 NL O ₂ @ 200 bar in 50L cylinders	
Containerised, high pressure treatment centre							
Model	Size (Container) LxWxH [mm]	Internal diameter [mm]	Volume [litres]	Weight (ca.) [kg]	Operating pressure [bar]	Gas supply/ storage	
Dräger CONTREAT	6,058x2,433x2,438	1,480	6,130	3,800	5.5	HD Compressor 330 bar @ 500 litres/ min 120.000 NL Air @ 300 bar in 50L cylinders 20.000 NL O ₂ @ 200 bar in 50L cylinders	
Mobile, light aluminium cover							
Model	Height	Length ext. / int. [mm]	Volume [litres] [mm]	Weight (max.) [kg]	Operating pressure [bar]	Air supply [litres/bar]	Connector – flange
Dräger SuperDUOCOM	1,290/1,454	2,214/2,194	1,368	400++	5.5	2x10/200	DIN 13256 (NATO- Stanag1079)
Dräger SuperDUOCOM	1,340	2,350/2,540	730	225++	5.5	2x10/200	DIN 13256 (NATO- Stanag1079)
Dräger EMK	532	2,100/2,300	350	147+	5.5	2x10/200	DIN 13256 (NATO- Stanag1079)
Dräger Ante Chamber to lock on the Dräger SuperDUOCOM	1,361	1,031/875	675	240+	5.5	external	DIN 13256 (NATO- Stanag1079)

Dräger Diver Decompression Chambers

ORDER INFORMATION

Dräger TDS FB	65 23 960
Dräger TDS 1	65 14 648
Dräger CONTREAT	65 23 147
Dräger DECOM 1400	on request
Dräger SuperDUOCOM	65 20 380
Ante Chamber for Dräger SuperDUOCOM	on request
Dräger DUOCOM	65 17 800
Dräger EMK	T 20 300
Accessories	
ECU 50 chamber air conditioning unit for ante and main chambers	65 42 211

Dräger Hyper 5 Medical Treatment Chamber

The stationary medical treatment chamber used for hyperbaric oxygen therapy.



ST-1310-2006

Dräger Hyper 5 Medical Treatment Chamber:

The comfortable HBO therapy chamber.

The Dräger Hyper 5 is a stationary decompression chamber used for hyperbaric oxygen therapy when treating people suffering from decompression. It is also used to train divers and carry out medical research under controlled conditions. The pre chamber permits the entrance and departure of medical staff without the need to interrupt the treatment of up to 12 persons in the main chamber. Large rectangular doors permit the access of patients who have to be treated on a stretcher or in a wheelchair. Internal furnishings are adapted to customer requirements and are very comfortable. Reading lamps, ventilation nozzles as well as video and music facilities are reminiscent of an aircraft rather than a decompression chamber. All this helps the patient to completely relax.

SAAll masks have a pleasantly low breathing resistance and are very easy to clean and disinfect.

Options

If, instead of a flat floor with a rectangular door, a NATO adapter is required then this is also possible as is a TUP (Transfer Under Pressure) e.g. with a Dräger DUOCOM. Further options include computer control or complete medical patient monitoring, CO₂ absorption equipment and optional fire extinguishers. Entertainment systems such as radio, DVD, CD, and TV can easily be integrated into the system.

For specifications please contact your local Dräger Safety sales organisation.

TECHNICAL DATA

Medicinal treatment chamber for up to 14 persons							
Model	Internal diameter	Length Ante/ Main Chamber	Volume [litres]	Weight [kg]	Operating pressure [bar]	Gas supply	BIBS (AC/MC)
	[mm]	[mm]					
Dräger Hyper 5	2,200	1,500/5,500	26,600	13,700	5	breathing air oxygen optional Nitrox/Heliox	2 / 12

Dräger After Sales Service

Perfectly functioning equipment is essential for those working in hazardous environments. For this reason, and again as part of its total solution philosophy, Dräger Safety offers a complete after sales service from planning and installation through to maintenance and, of course, repair.



ST-965-2001

Dräger After Sales Service:

Maintenance, repairs, inspection of safety equipment and much more.

Planning and installation

Dräger Service aims to provide the highest level of customer service, whether it be in planning and development, the production and/or special assembly of machine parts, instrument test or inspection, system advice, or user training. Our goal is simple: to provide a cost efficient service that meets individual needs and ensures maximum safety. In line with our total solution philosophy, our qualified personnel can be called upon at any time, even after delivery or installation.

Dräger repair service

Even the most perfect equipment and systems need regular servicing to maintain full functionality. As well as regular services on safety equipment, we carry out everything from hose repairs through to the calibration of monitoring systems and complete system overhauls. Irrespective of the manufacturer, our expert teams all over the world are available on site and in Dräger workshops to service or repair your essential safety equipment.

Dräger workshop for respiratory protection

Professional maintenance and care of your respiratory protection equipment in our workshop does more than ensure its' performance, it represents an investment in the increased longevity of that equipment.

Featuring accurate, software controlled universal testing systems and an impressive array of test and monitoring instruments, our workshops offer the best possible conditions for the systematic maintenance and repair of face masks and other personal protection equipment. Not only is the life of the equipment extended, but functionality can be guaranteed.

Global service

With approximately 40 subsidiaries and dedicated distributors in over 100 countries, Dräger Service can be called upon at any time to offer a broad spectrum of services to users on site. Outstanding logistics efficiency also means that spare parts can be available at short notice throughout the world.

Dräger Safety Academy

New standards, new technologies, new legislation, new sources of danger – the demands for greater safety have changed dramatically in recent years. Thanks to the professional support of the Dräger Safety Academy, you and your equipment could not be better prepared for extreme situations.

ST-1702-2004



Dräger Safety Academy:
Theoretical and practical training.

ST-4403-2006



Training For Reality:
Fire training in mobile systems.

ST-6928-2005



Hazard Prevention:
Mobile fire extinguisher training.

There is no going back in an emergency so it can be reassuring to know that you have already experienced a similar situation. You will feel more able to assess the risks, be more at ease with equipment and be more confident in your decisions.

Dräger Safety offers technical and hot fire training as well as training in hazard prevention via a number of comprehensive professional seminars that are specifically designed to help you to handle difficult situations. Designed to provide a total solution for your training requirements, it provides:

Technical training

The Dräger Safety Academy is designed to prepare you for all kinds of different challenges. You can choose from a wide range of seminars covering the use, service and maintenance of equipment as well as the latest regulations and statutory provision and, for specific target groups, our services can be tailored to meet your individual needs. With years of experience, our specialist trainers maintain the highest standards by combining thorough theoretical information with practical exercises and examples of real life situations.

Working in conjunction with the Academy, Dräger Service also offers training on the safe handling of instruments during transportation and operation. Held at customer premises, these sessions are usually carried out by specially trained service technicians who have direct experience on the subject.

Realistic fire brigade exercises

Training at high temperatures and practising how to deal with real-life fire fighting scenarios are the key issues in our fire training courses. Whether you are interested in accustoming personnel to high temperatures in a gas-fired simulator, or teaching them how to recognise and tackle a flashover in a wood-fired container, our fire training simulators allow a wide range of different exercises to be performed just about anywhere. Designed to save you valuable time whilst providing invaluable training in a realistic environment, these mobile fire training simulators are delivered direct to customer sites.

Realistic training for hazardous situations

Remaining in full control of operational and emergency situations means regular training and practice. With seminars such as Fire Extinguisher Training and Crisis Management, the Dräger Safety Academy offers you the chance to practice your response to emergencies under simulated yet realistic conditions. There really is no need to wait for the real thing to gain experience, you can be better prepared and safer with the Dräger Safety Academy.

A current review of training and seminar topics can be seen under www.draeger.com.

Training for reality – with the Dräger Safety Academy.

Dräger VOICE

Easy and quick to use, the unique Dräger Voice Hazardous Substance Information System provides essential information about hazardous substances as well as the most appropriate detection and warning instruments. Available on CD or at www.draeger.com/voice, this interactive tool comprises a comprehensive database, and is designed to help solve your problems by answering substance questions, 365 days a year, 24 hours a day.



ST-122-2007

Dräger VOICE:

Information on more than 1,600 hazardous substances.

Incorporating a comprehensive database, Dräger VOICE contains up to date information on more than 1,600 dangerous substances and 11,500 synonyms. A direct time saving correlation between dangerous substances, detection possibilities and protection equipment is also provided and, to ensure user safety, correct handling instructions are given for recommended products.

Easy operation

By entering CAS-, EINECS- or a UN number, the chemical formula for the selected dangerous substance will be displayed.

Continually updated information for each substance can then be shown such as:

- German and International limiting values
- physical and/or chemical characteristics such as molecular weight, density, melting and boiling points, threshold values and exposure limits in air.
- fire protection information (LEL, UEL), flash point, ignition point or codings such as danger symbols, R and S sets, Kemler No. and hazard notice synonyms.

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